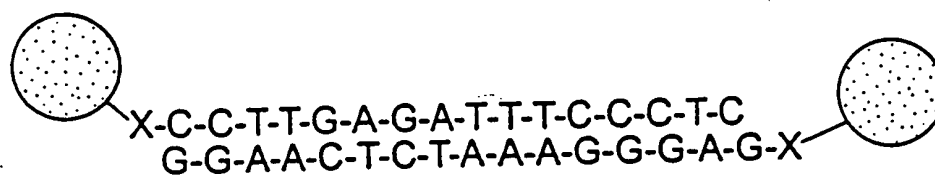
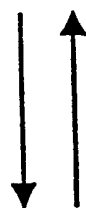
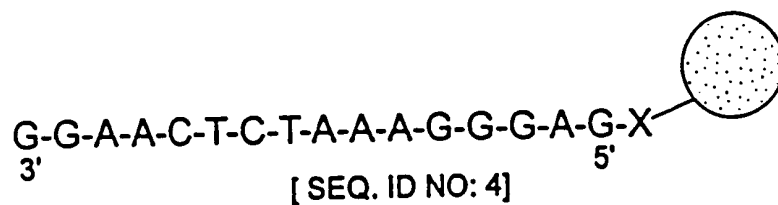
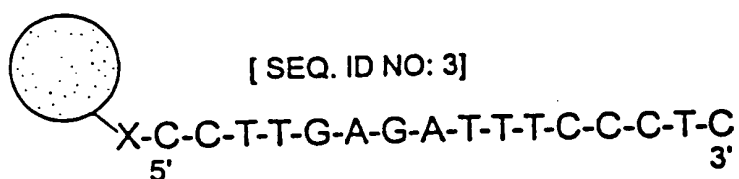


FIG. 1



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FIG.2

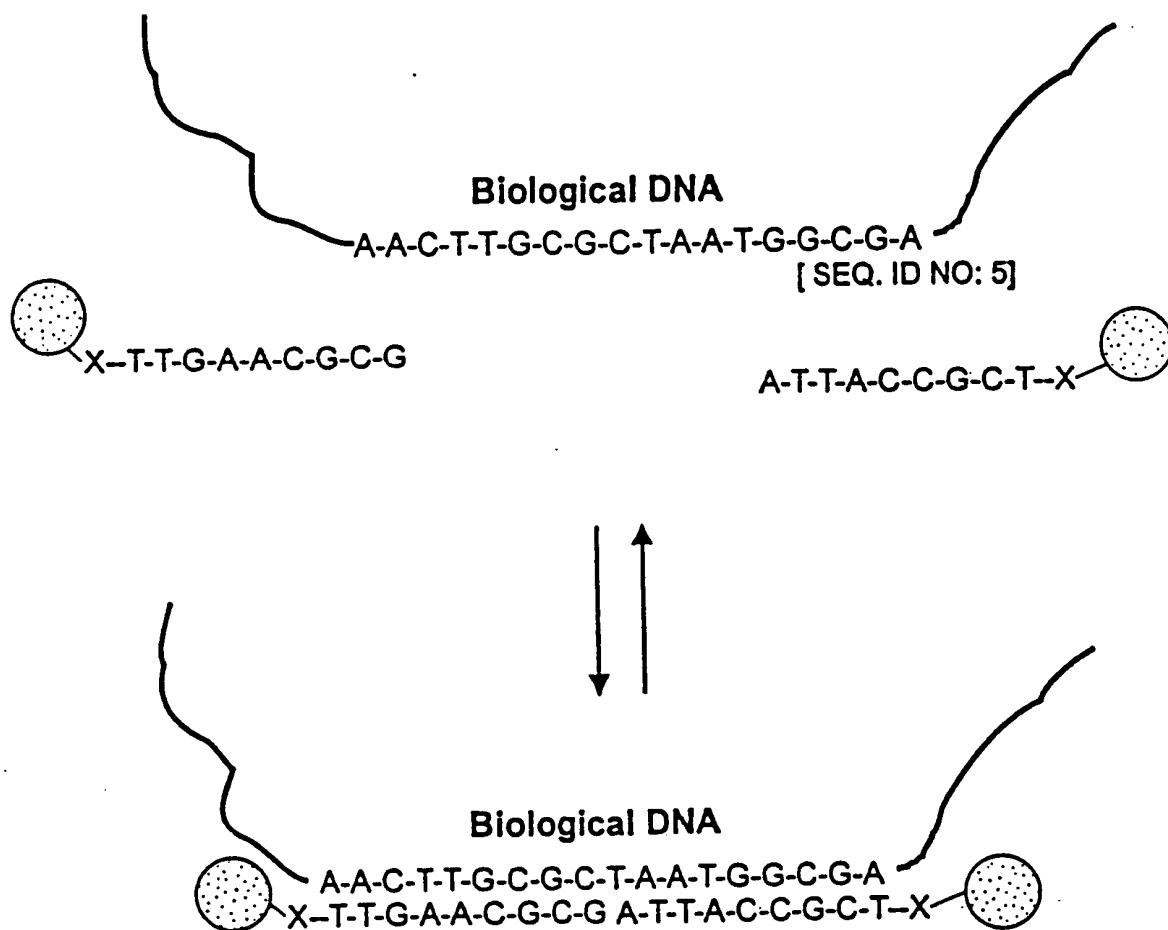


FIG. 3.

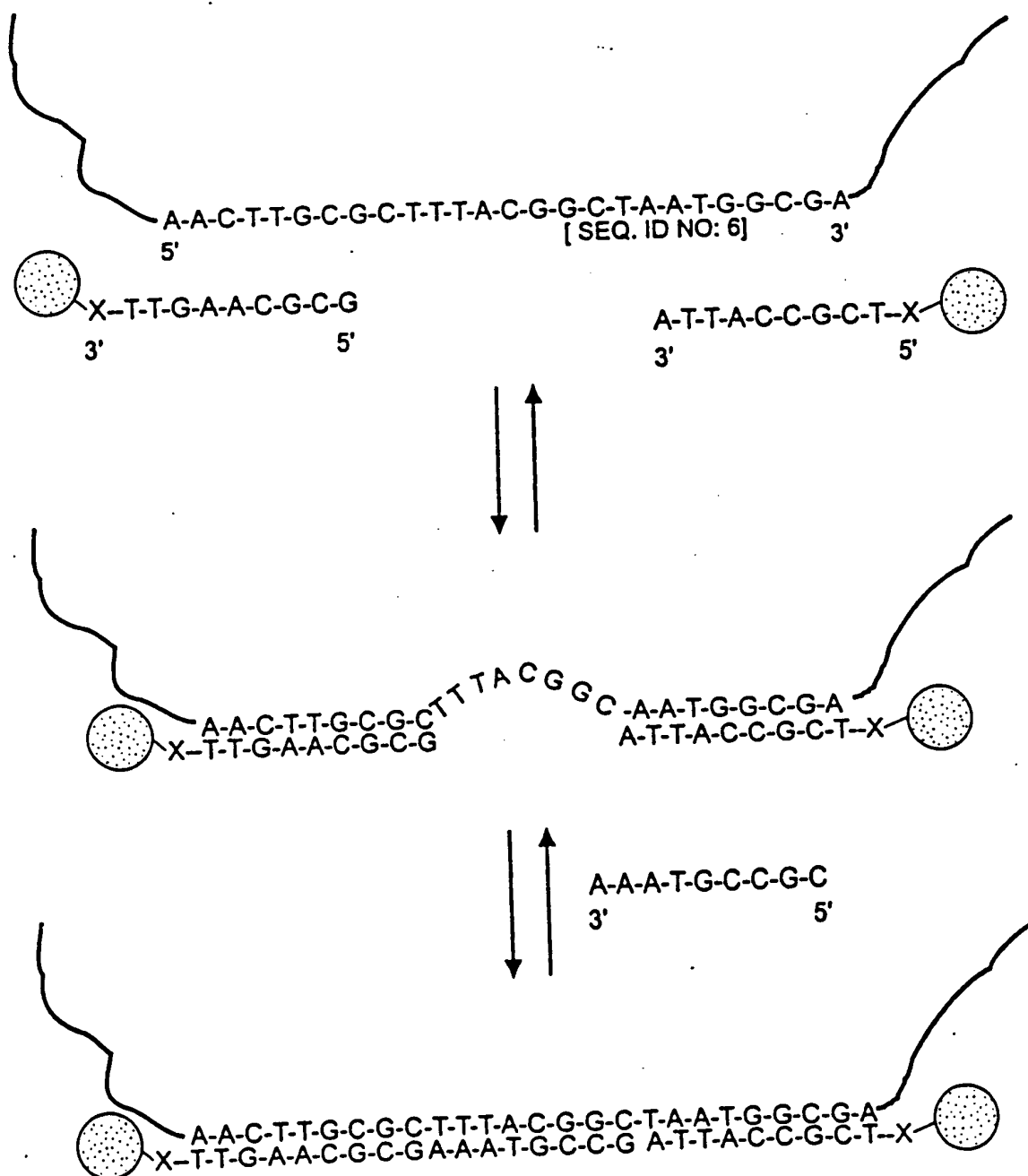
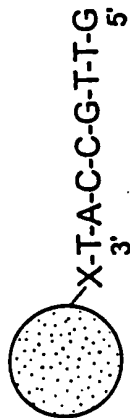
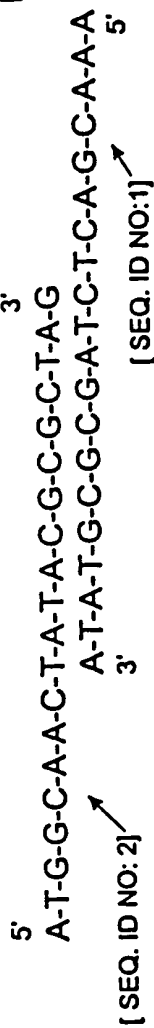
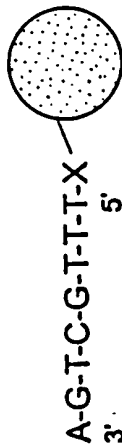


FIG. 4

Linking oligonucleotide

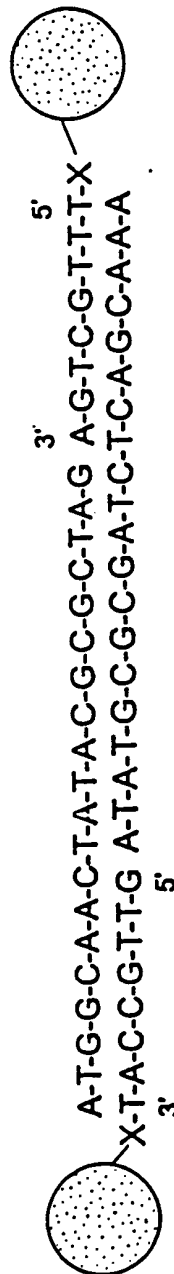


Colloids



Heat Mix below Tm

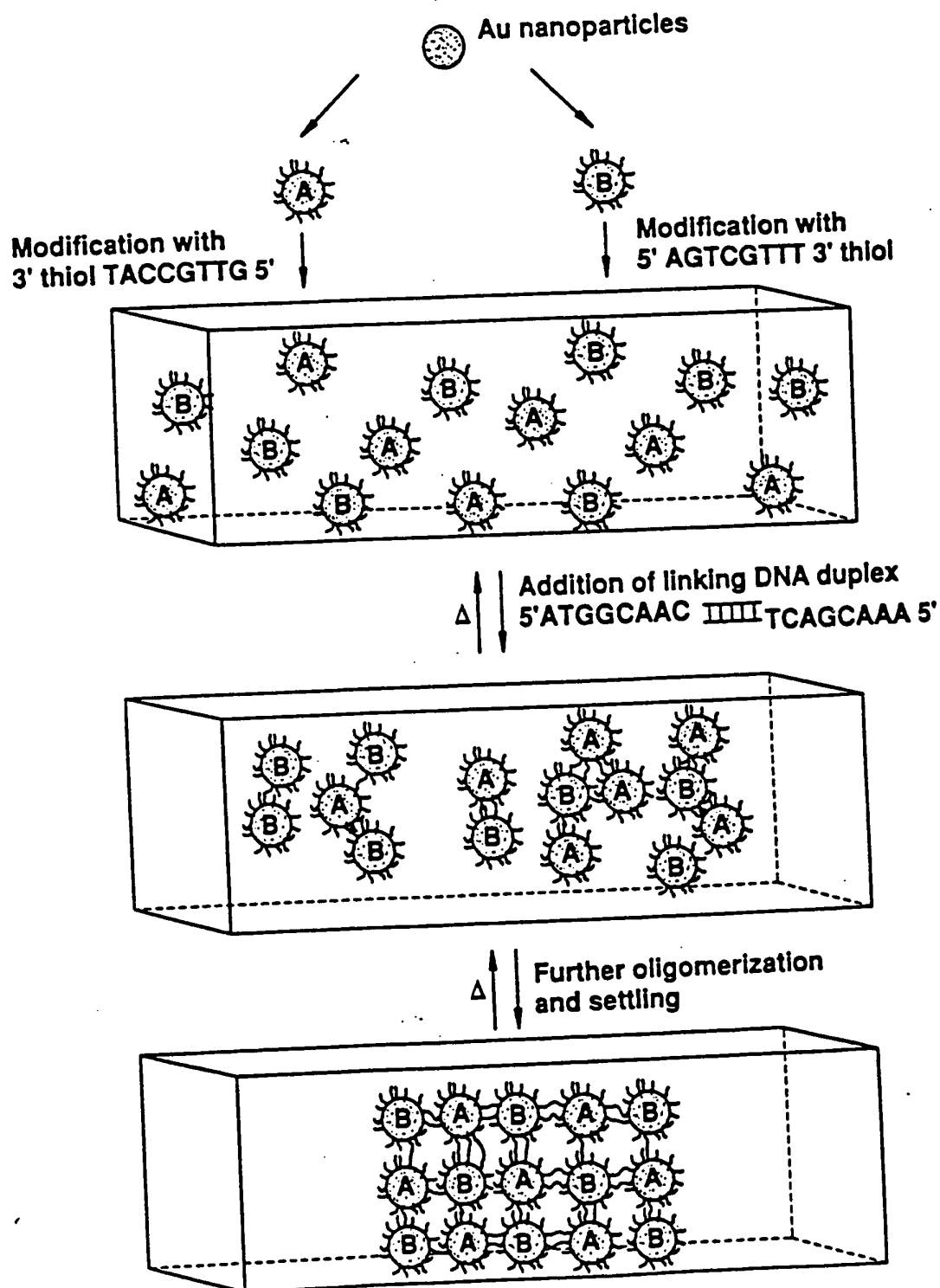
Aggregate



Heat Stand below Tm

Precipitate (formed by further cross-linking)

FIG.5



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FIG. 6A

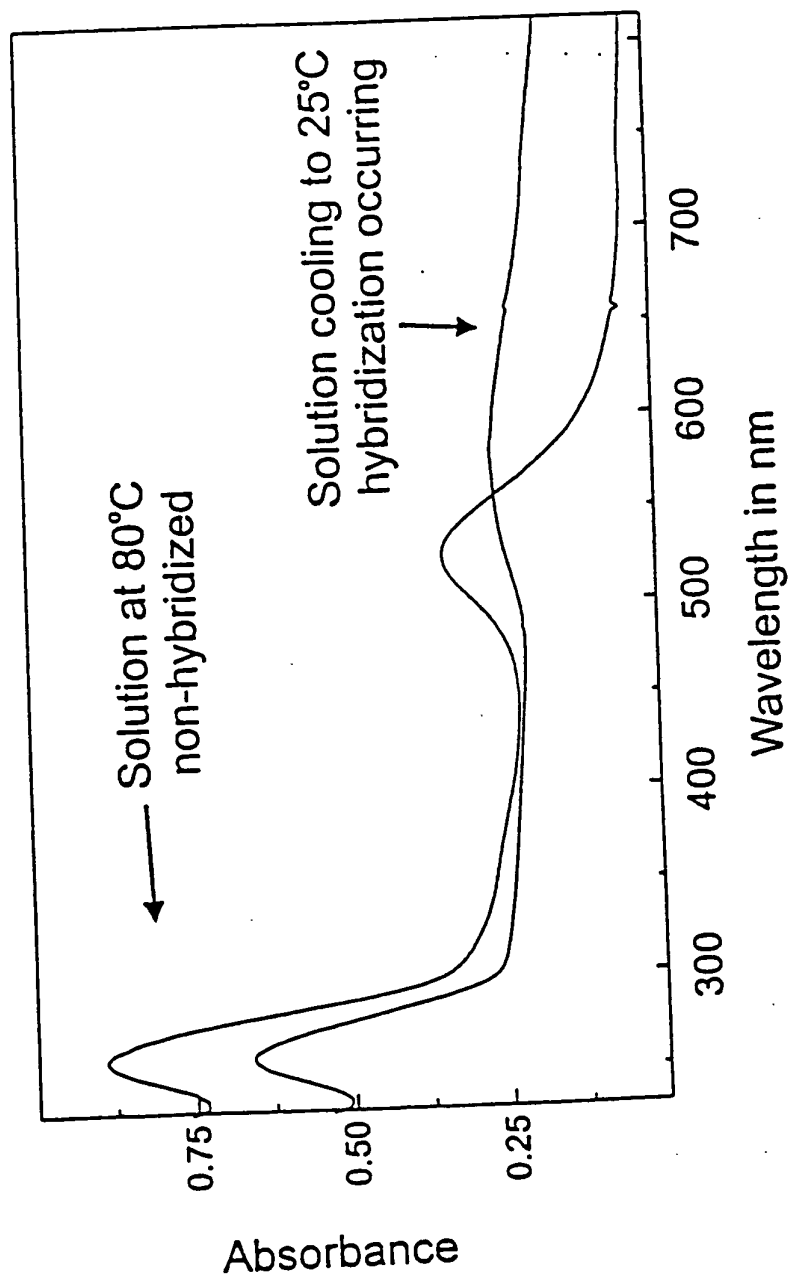


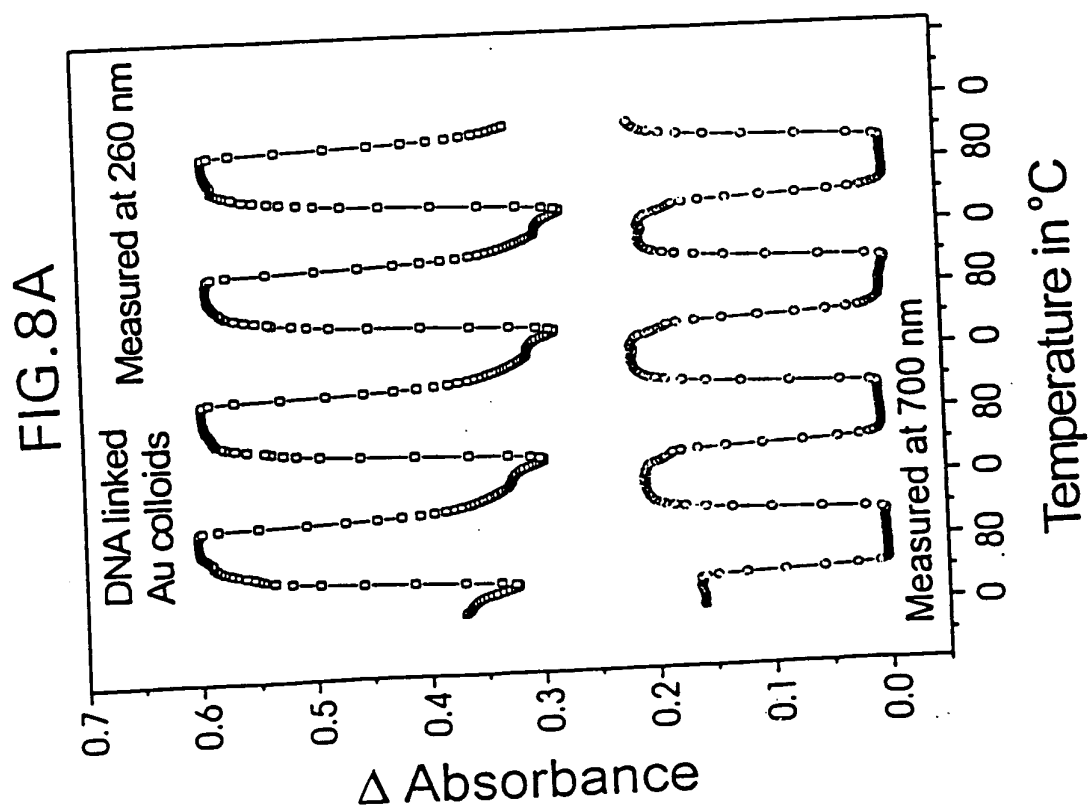
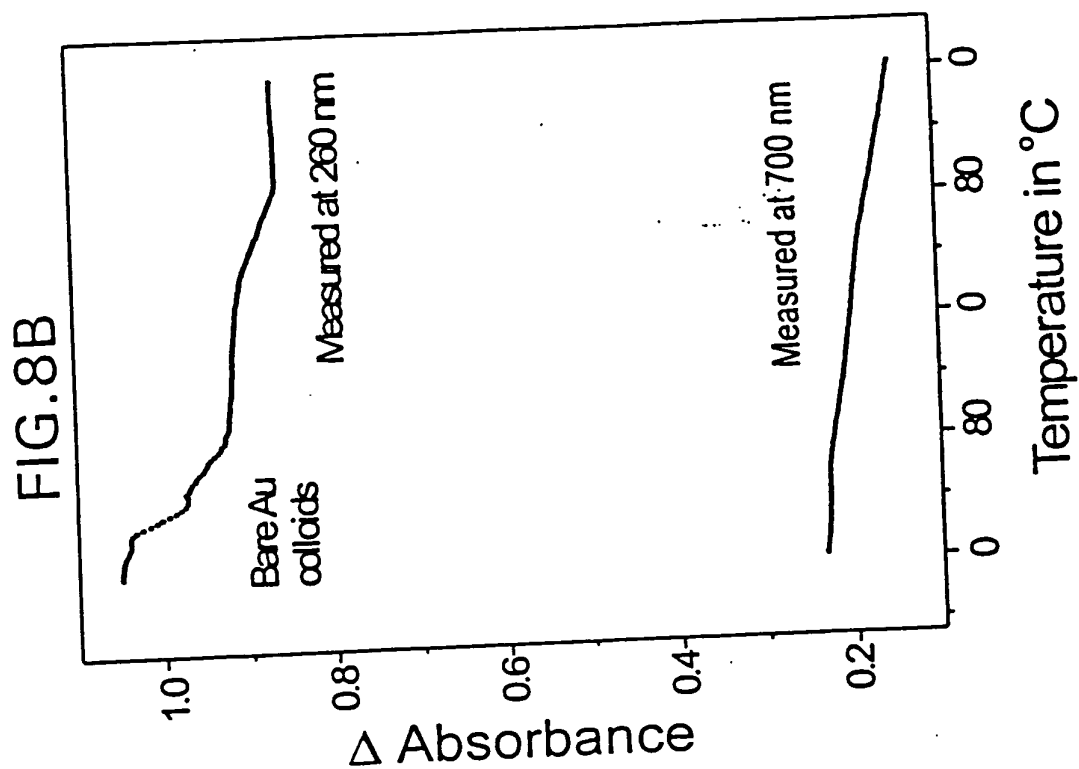
FIG. 6B



FIG. 6C

FIG.7





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FIG.9A

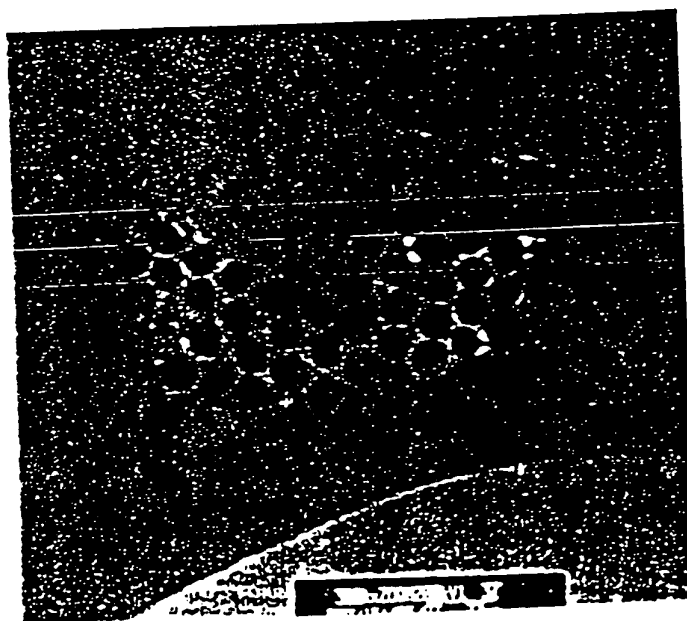


FIG.9B

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FIG.10

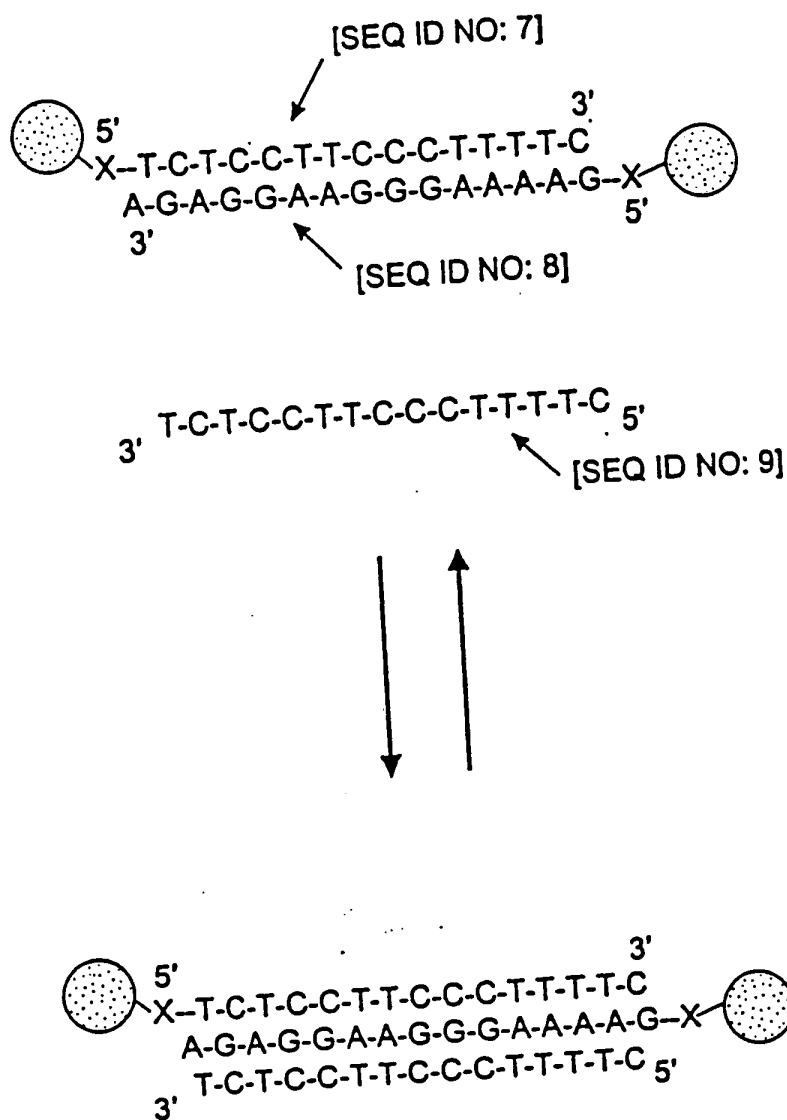
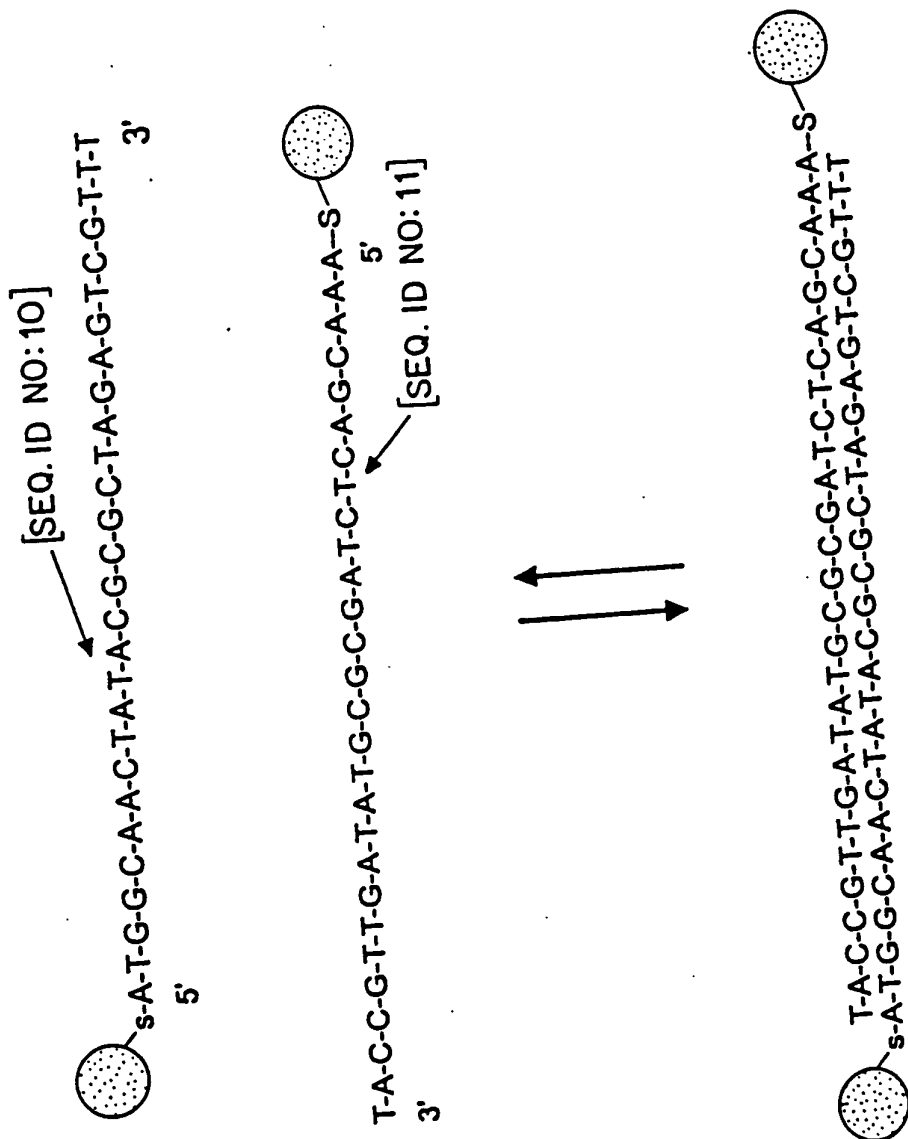


FIG. 11



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FIG. 12A

Complementary Target

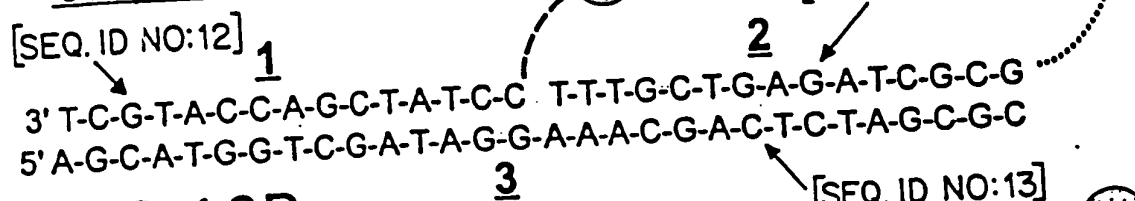


FIG. 12B

Probes without Target

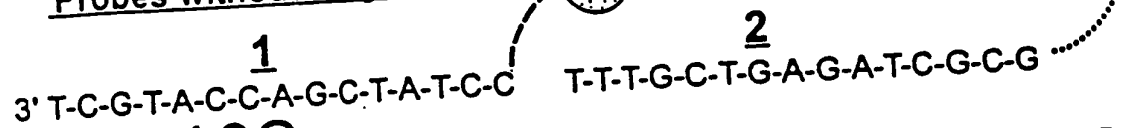


FIG. 12C

Half Complementary Target

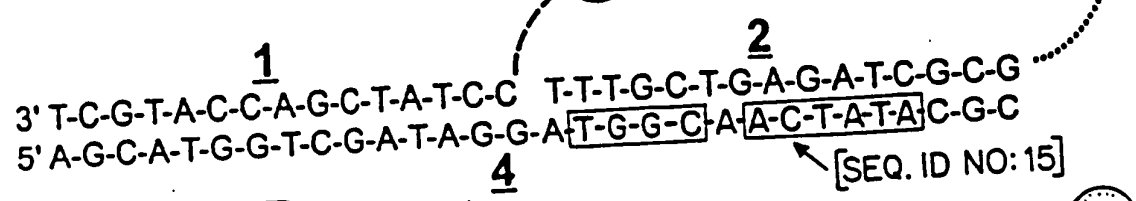


FIG. 12D

Target - 6 bp

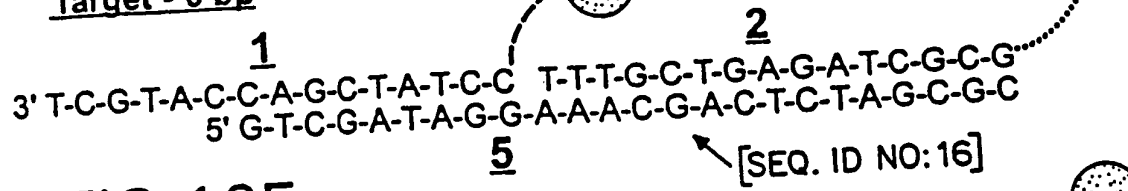


FIG. 12E

One bp Mismatch

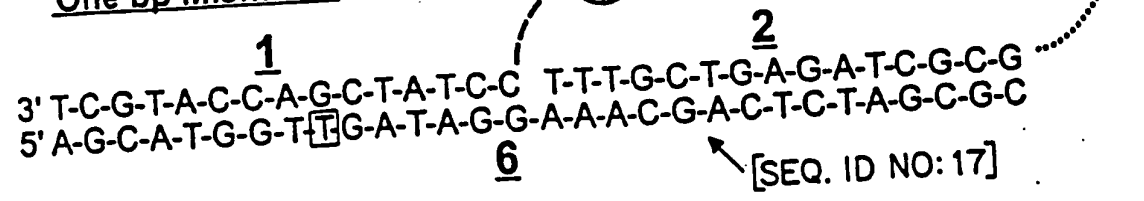


FIG. 12F

Two bp Mismatch

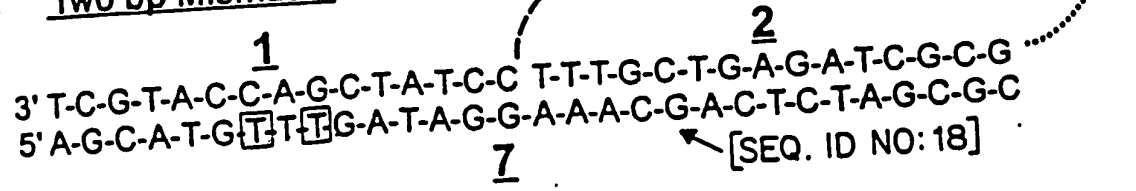
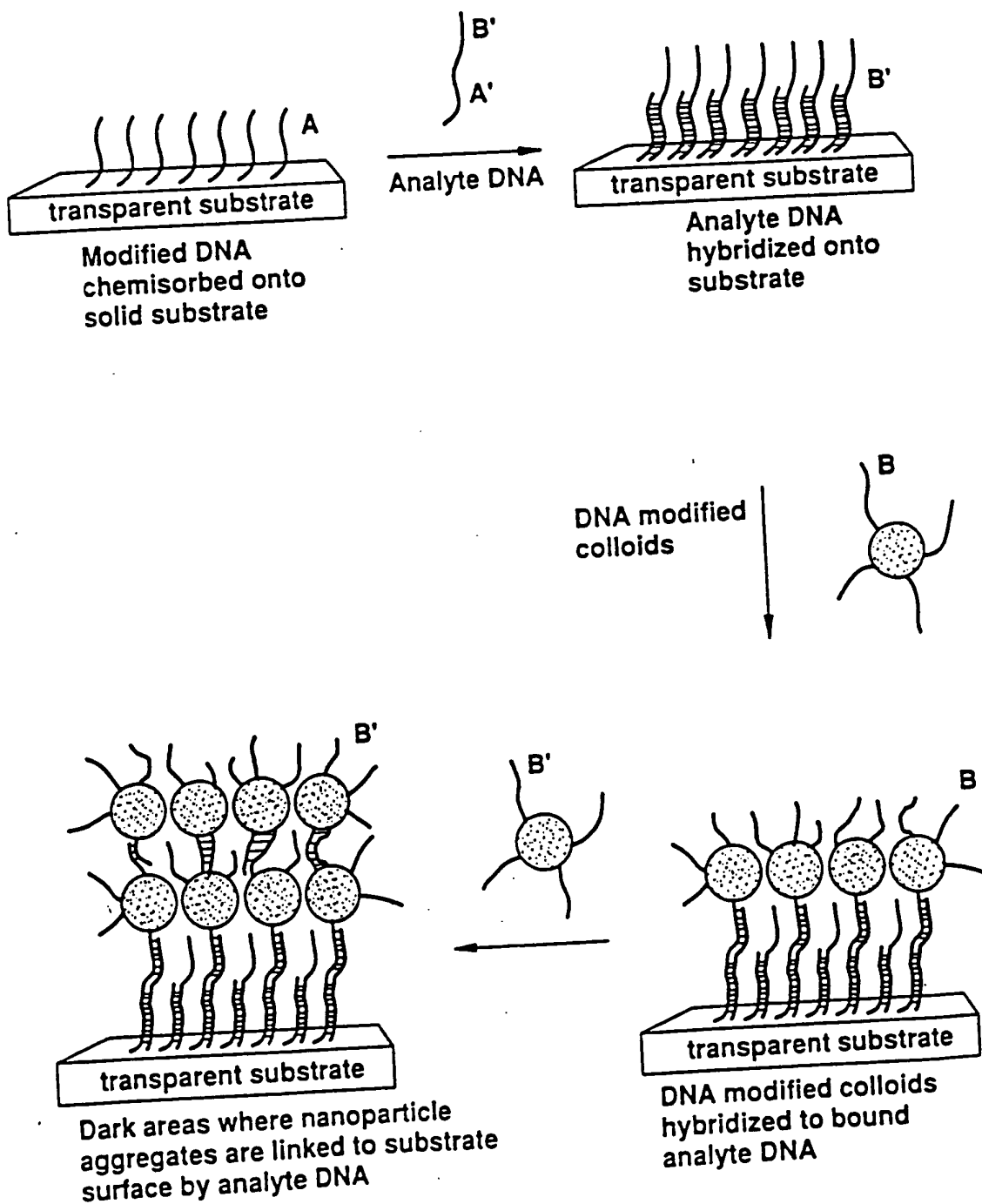
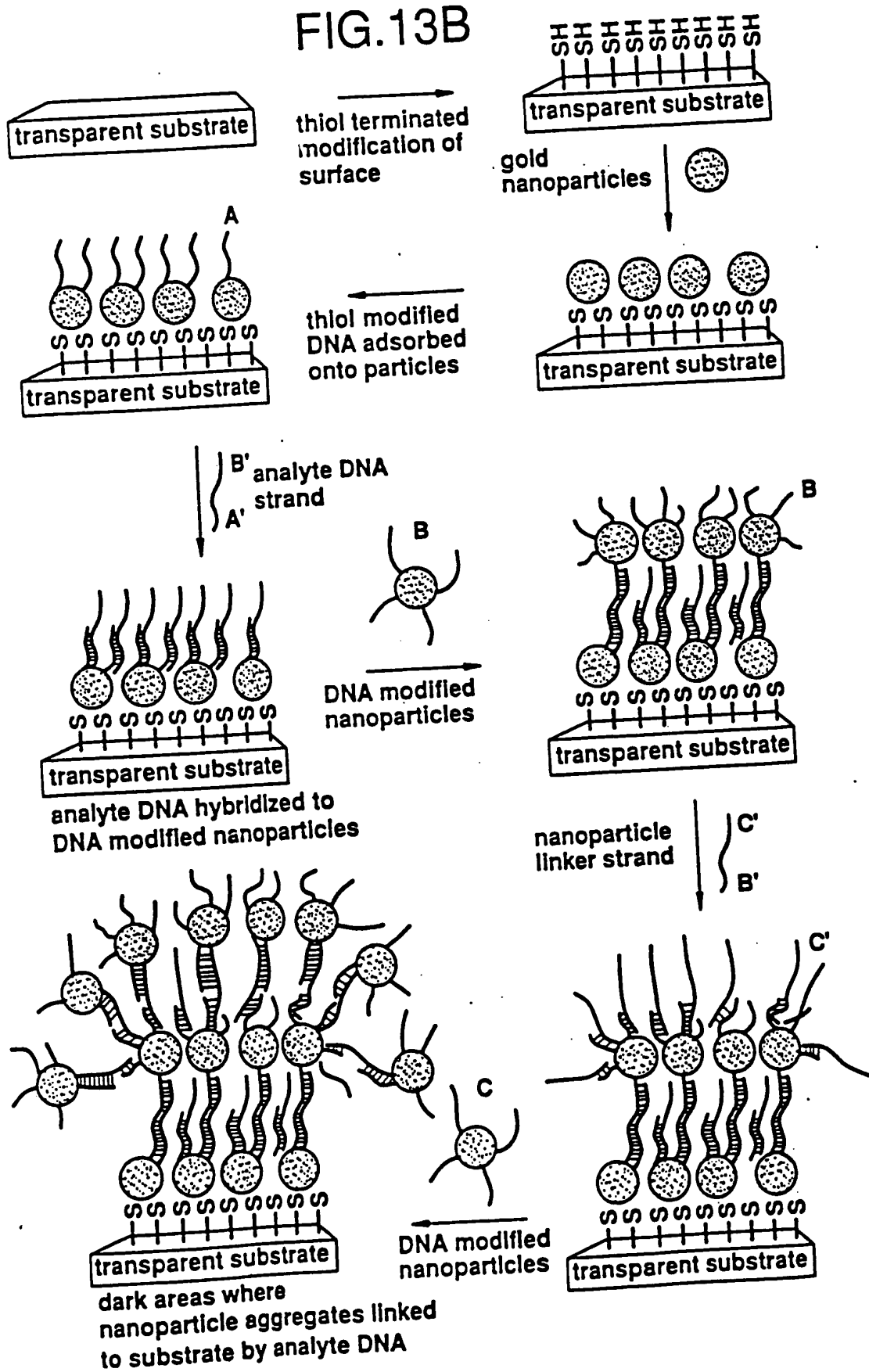


FIG.13A



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FIG.13B



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FIG. 14A

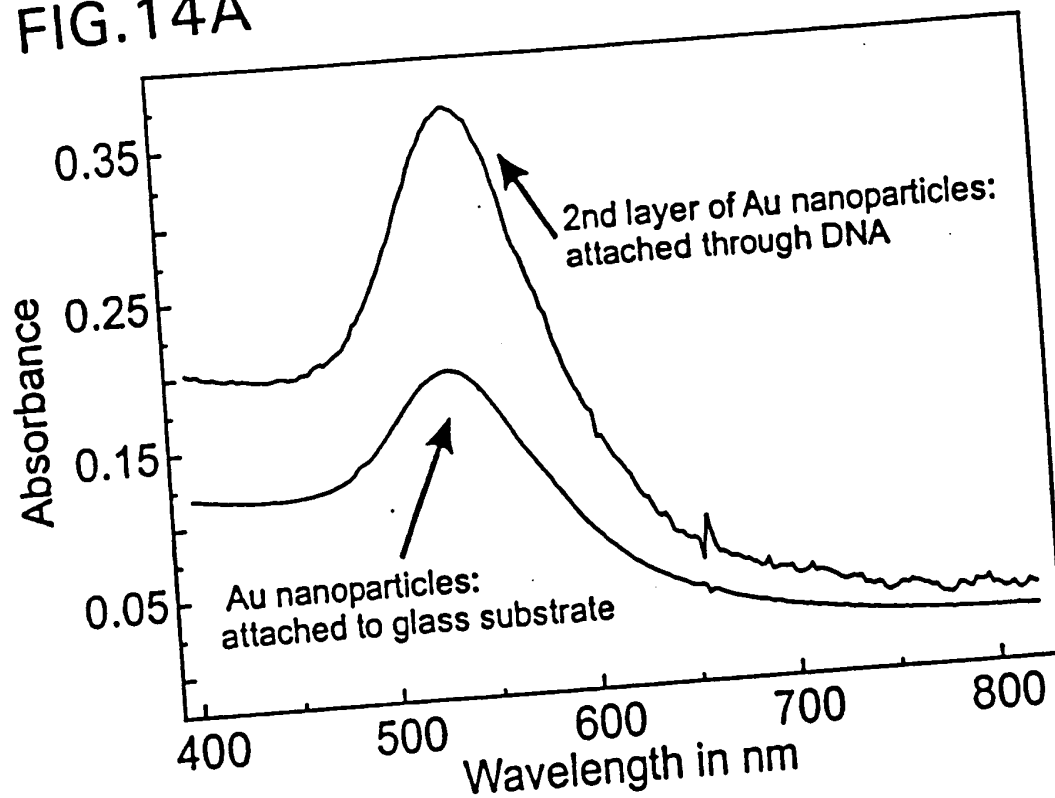


FIG. 14B

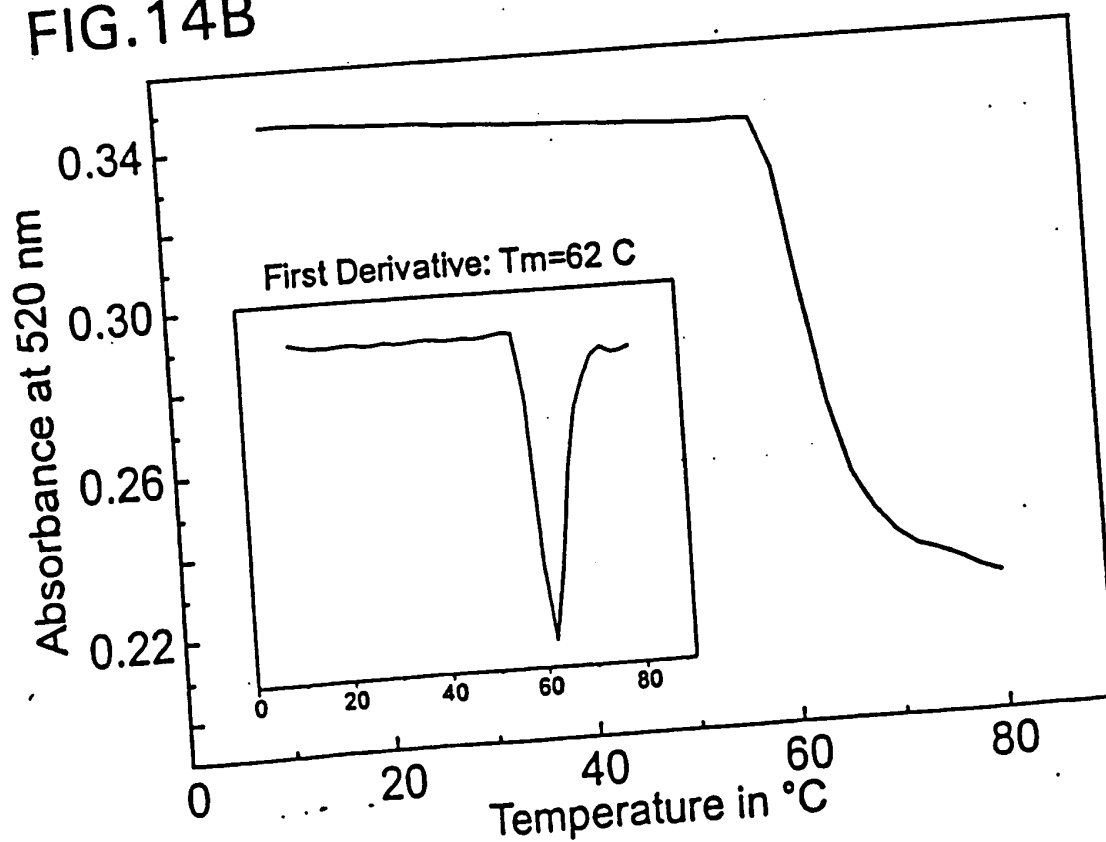


FIG15A

Probes with No Target

SEQ ID NO:19

SEQ ID NO:20

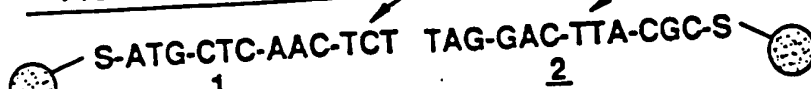


FIG15B

Half-Complementary Target

SEQ ID NO:21

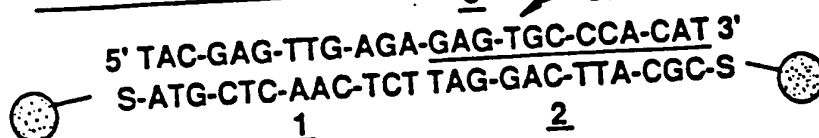


FIG15C

Complementary Target

Tm=53.5°C

SEQ ID NO:22

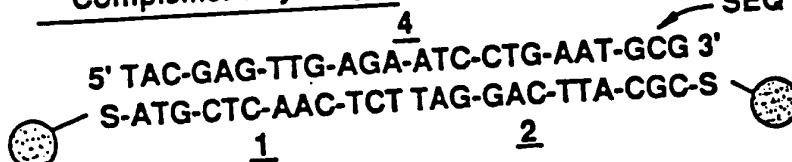


FIG15D

ONE Base-Pair Mismatch at Probe Head

Tm=50.4°C

SEQ ID NO:23

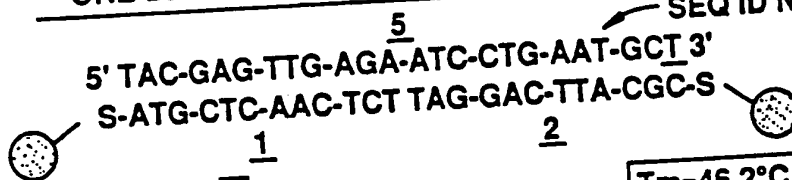


FIG15E

ONE Base-Pair Mismatch at Probe Tail

Tm=46.2°C

SEQ ID NO:24

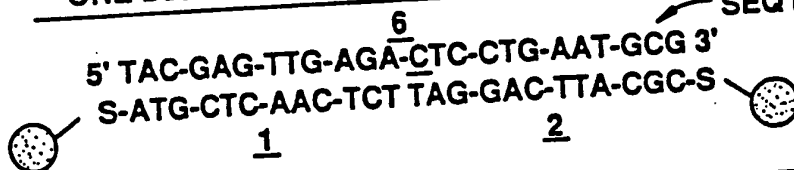


FIG15F

ONE Base Deletion

Tm=51.6°C

SEQ ID NO:25

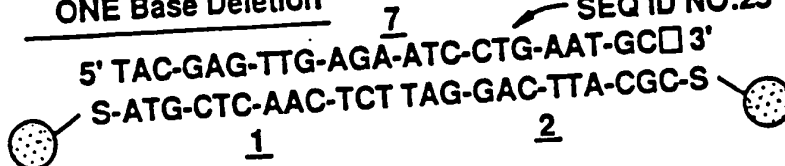
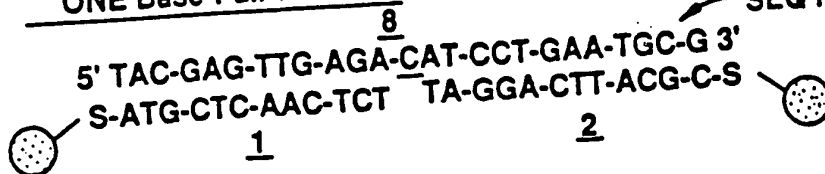


FIG15G

ONE Base-Pair Insertion

Tm=50.2°C

SEQ ID NO:26



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FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3' —
—S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —
1 2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

10D 40 base pairs
 5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3' —
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S
 1 2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

G.16C

1/2 base template

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'

—S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S—

1 2

FIG.17A

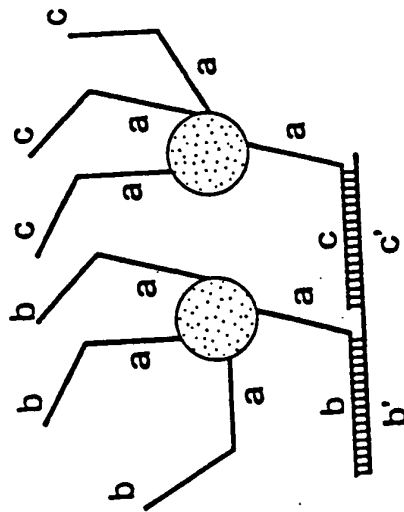


FIG.17B

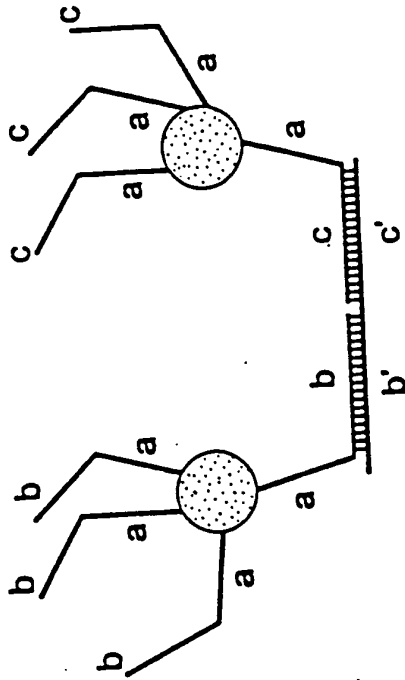


FIG.17C

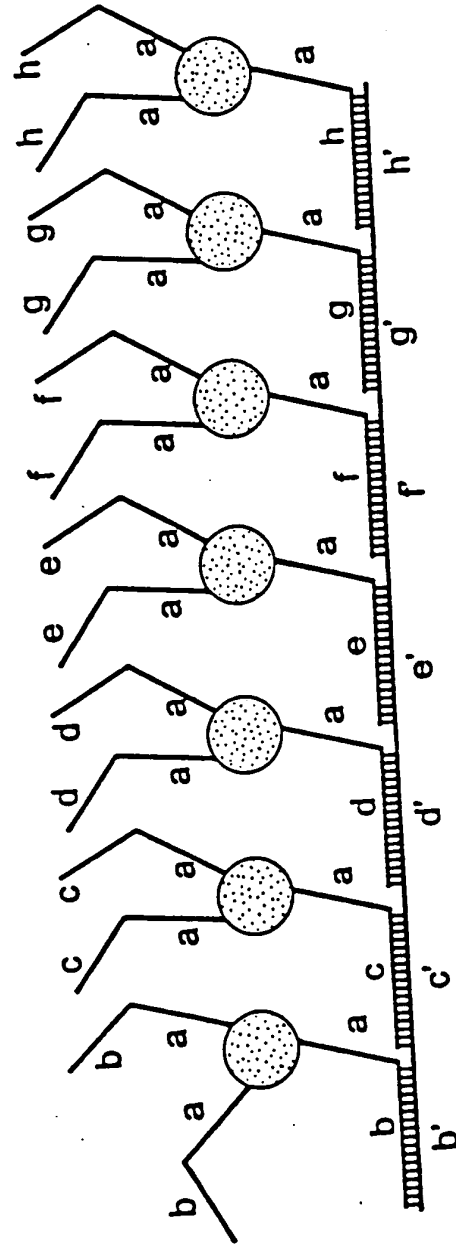


FIG.17D

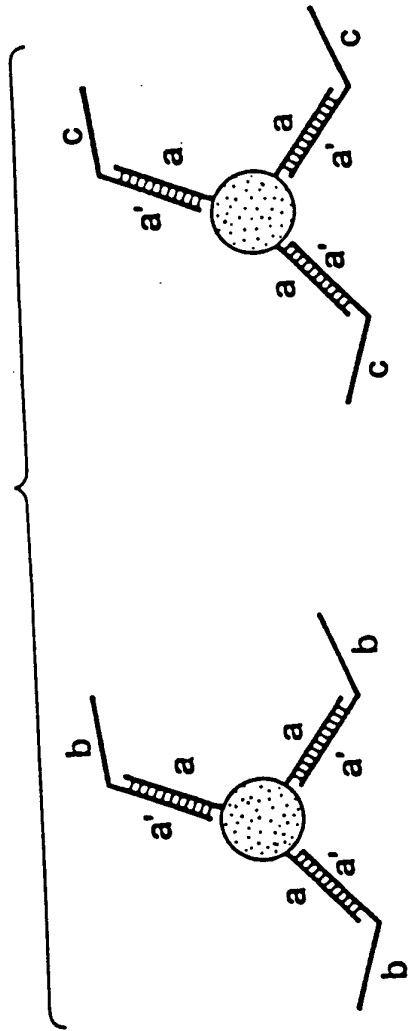


FIG.17E

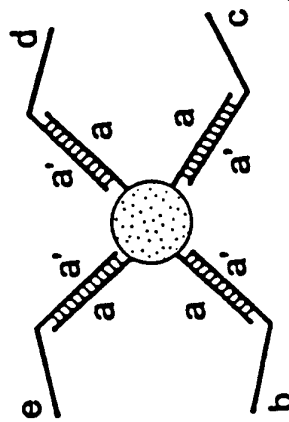


FIG.18

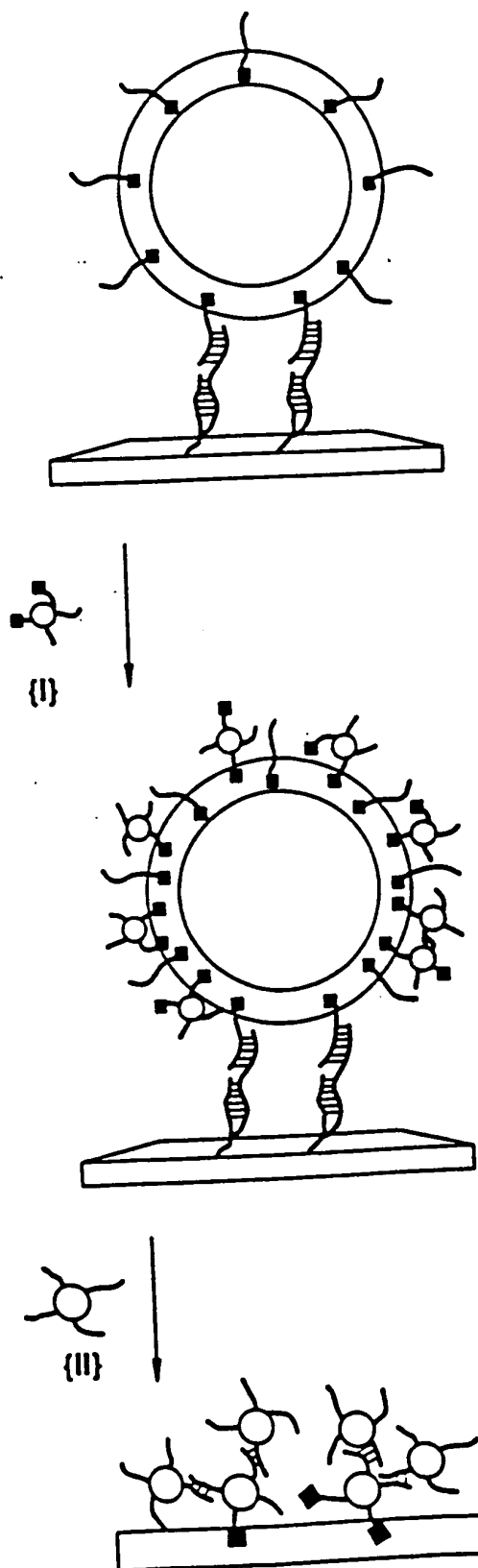


FIG.19A

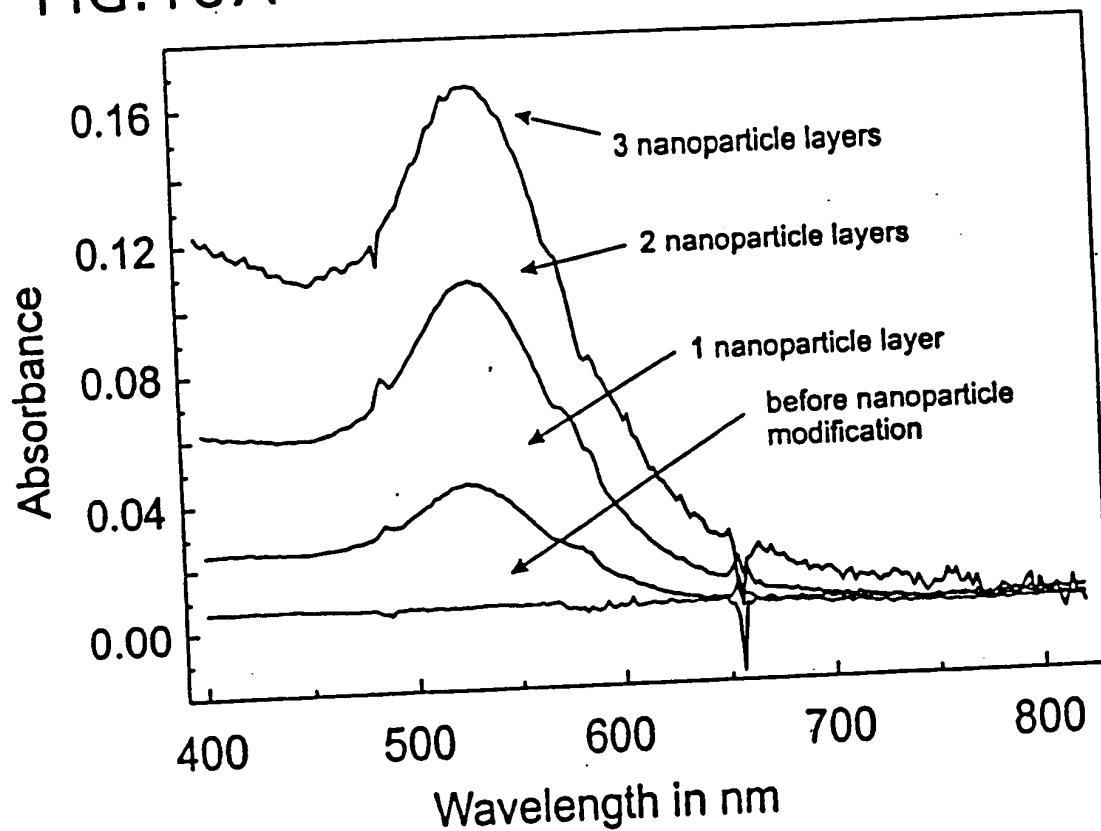


FIG.19B

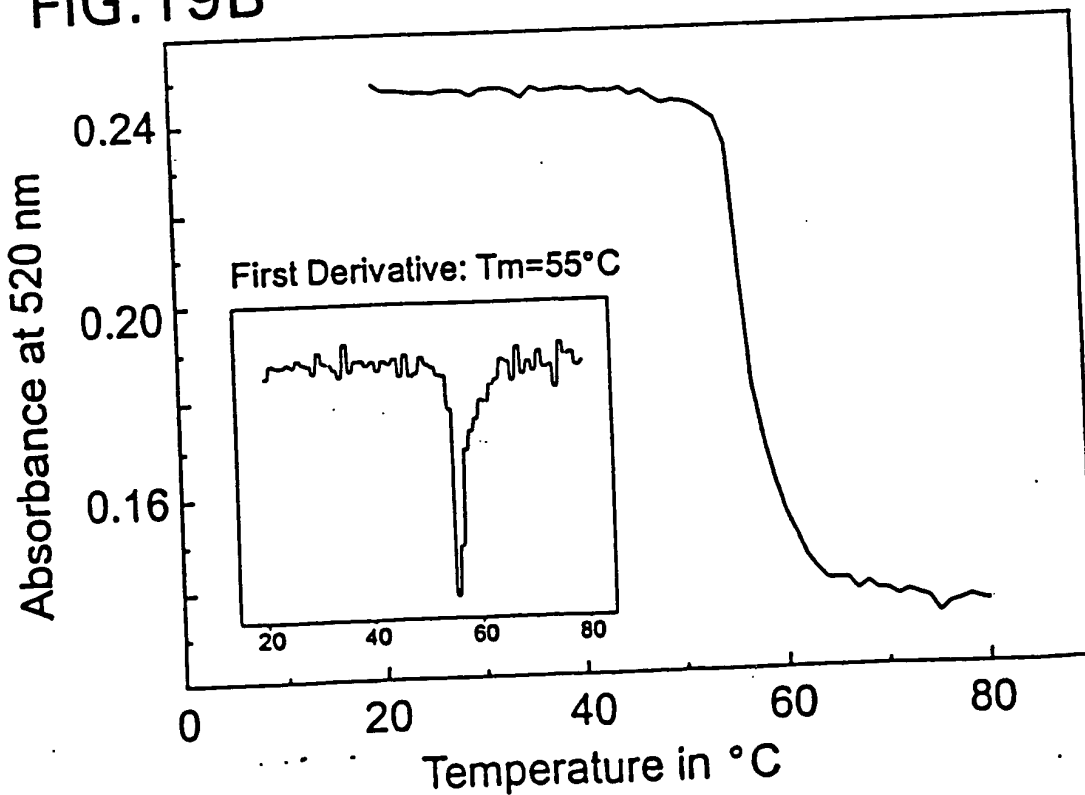


FIG.20A

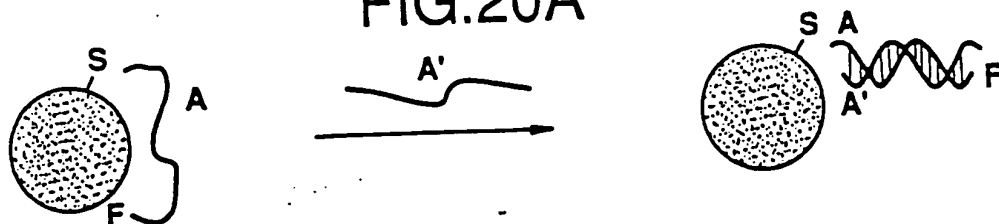
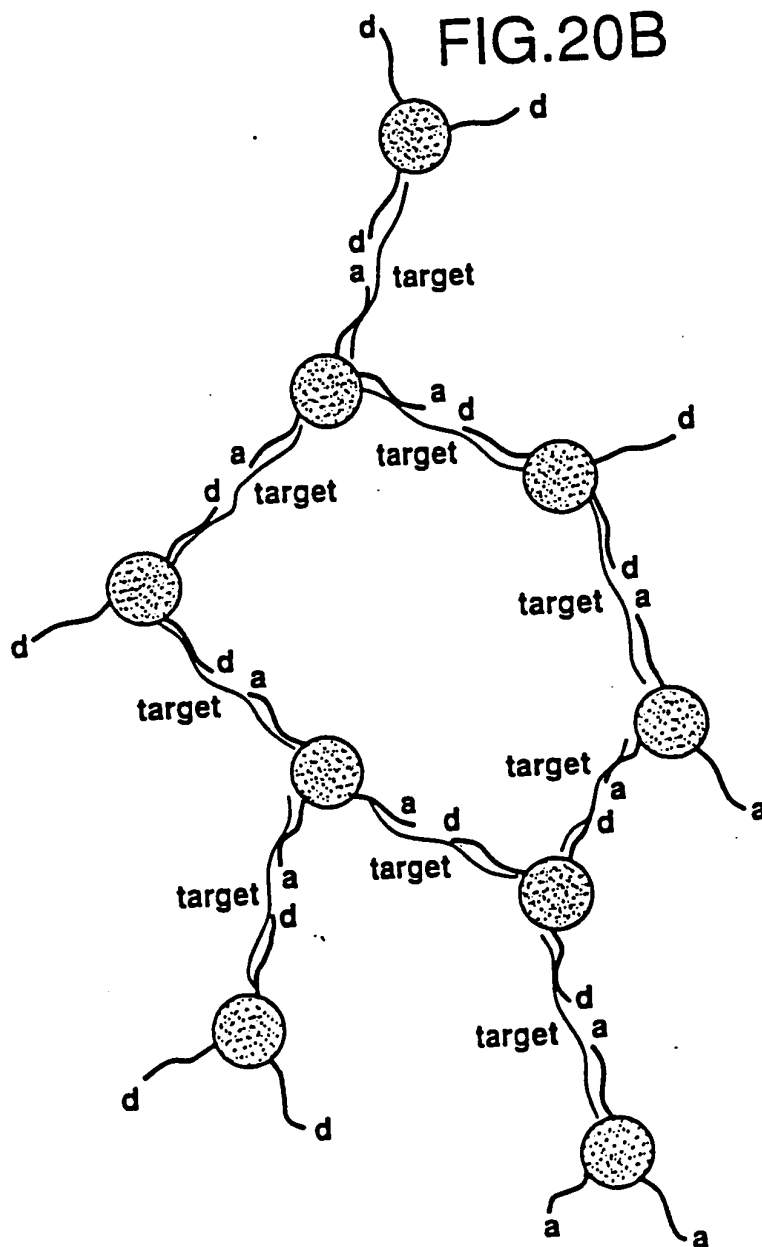


FIG.20B



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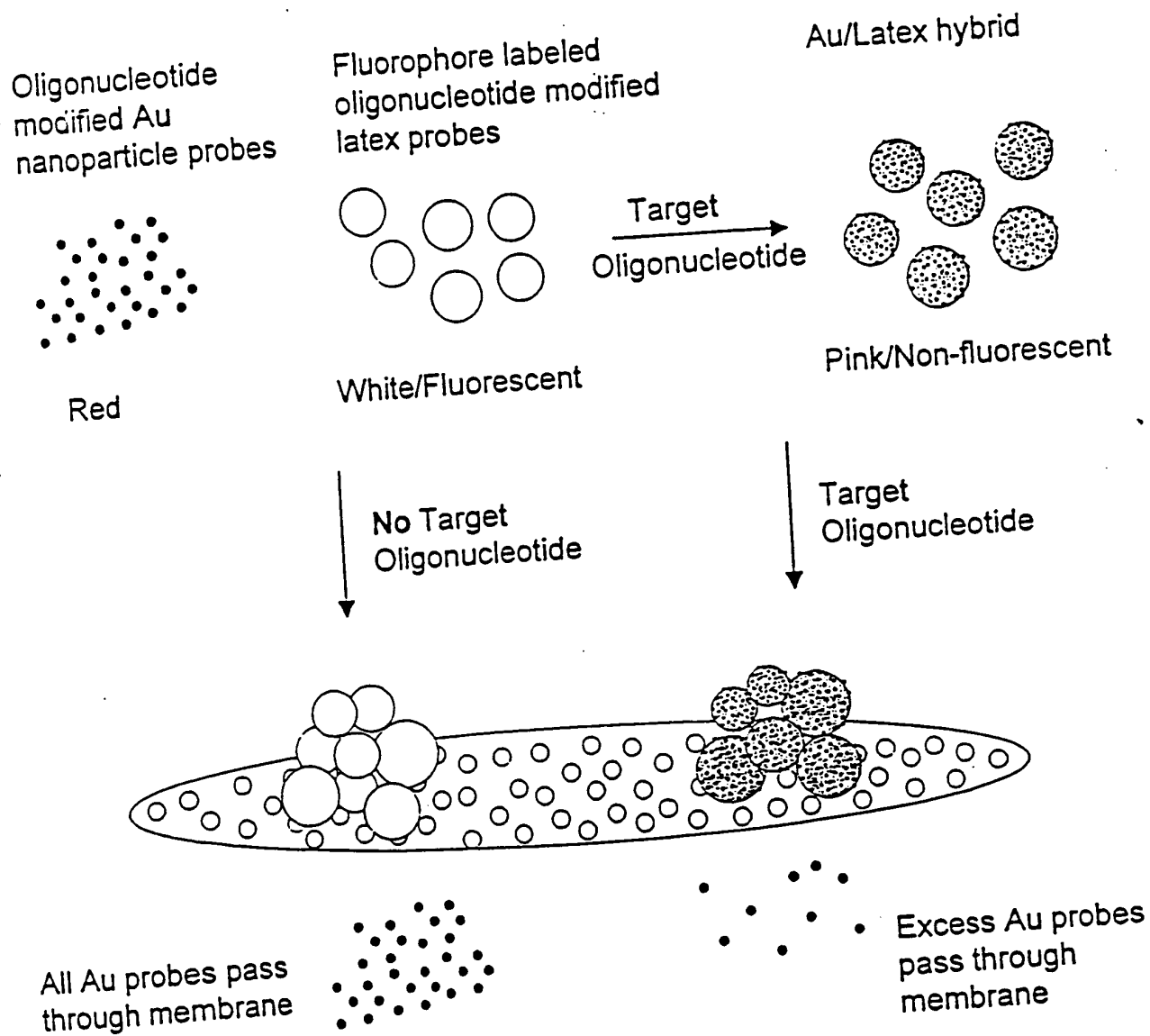
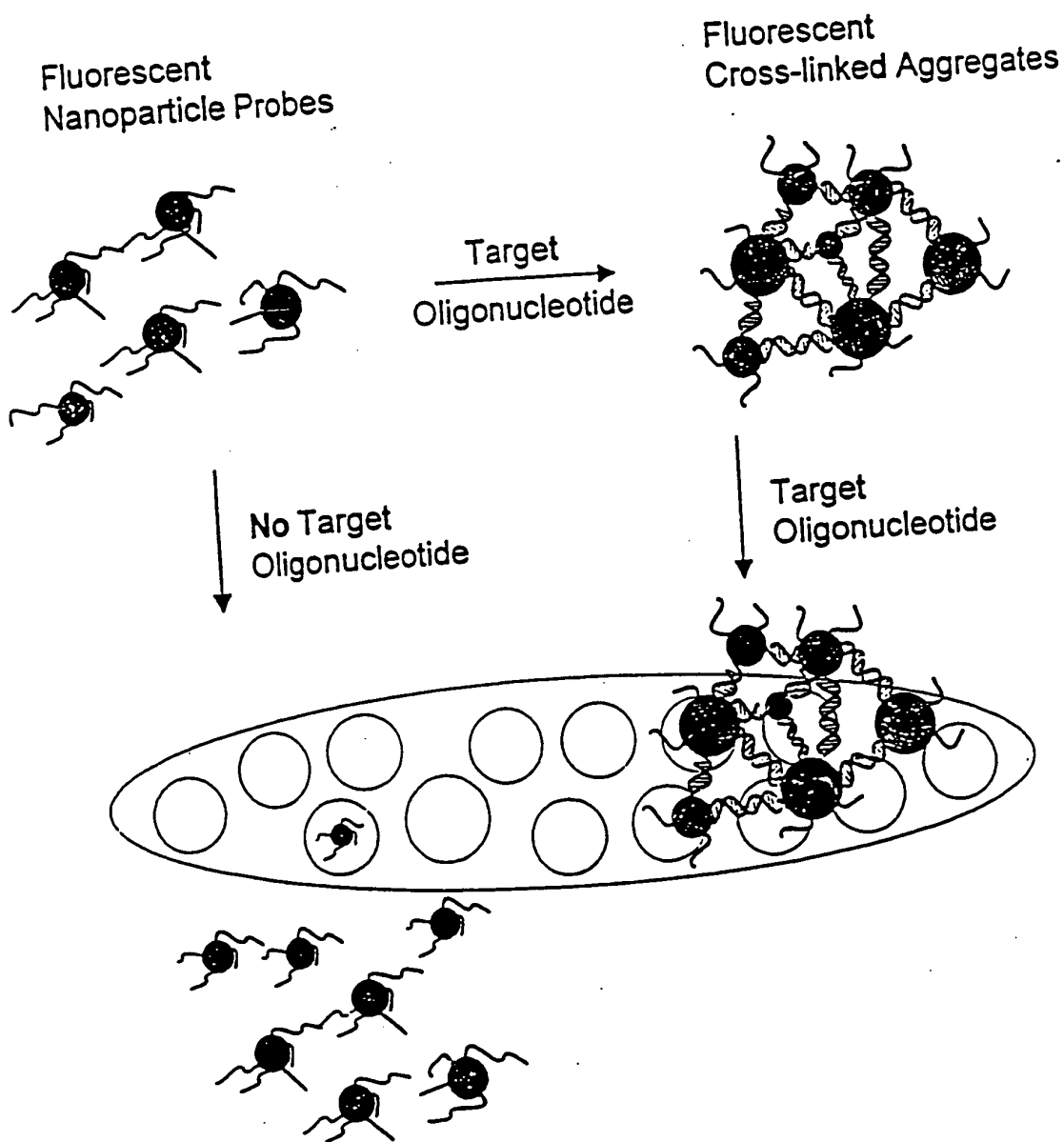


FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

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Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
 3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA
 TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
 AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT
 ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
 TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product

[SEQ ID NO:36]

3' CTC CCT AAT AAC AAT
 [SEQ ID NO:37]

3' TTA TAA CTA TTC CTA
 [SEQ ID NO:38]
 Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT	[SEQ ID NO:39]
3' A TCT CTT CAT TAA TTA AGC AGT TGT	[SEQ ID NO:40]
3' TAT TCT TTT TAT AAT AGG TCC CAA TAT	[SEQ ID NO:41]
3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA	[SEQ ID NO:42]

FIGURE 23

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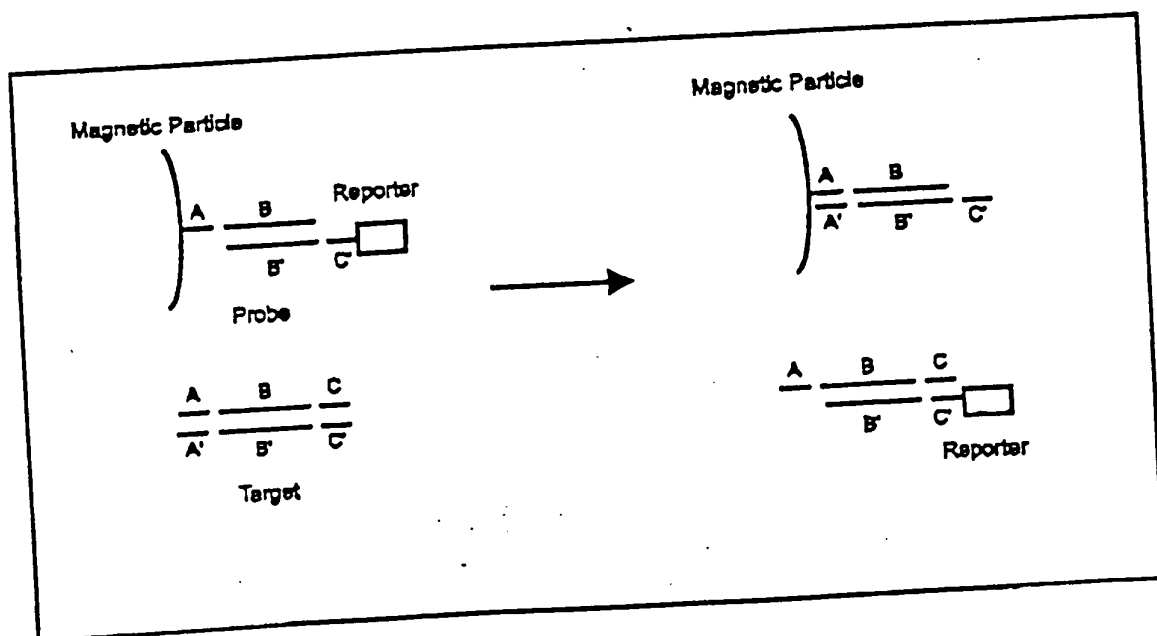
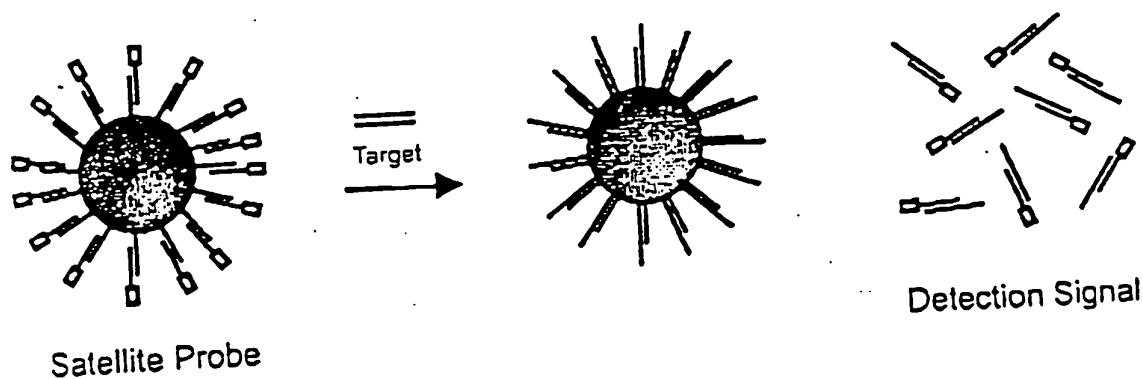


FIGURE 24

09973638 101001

09973638, 101001

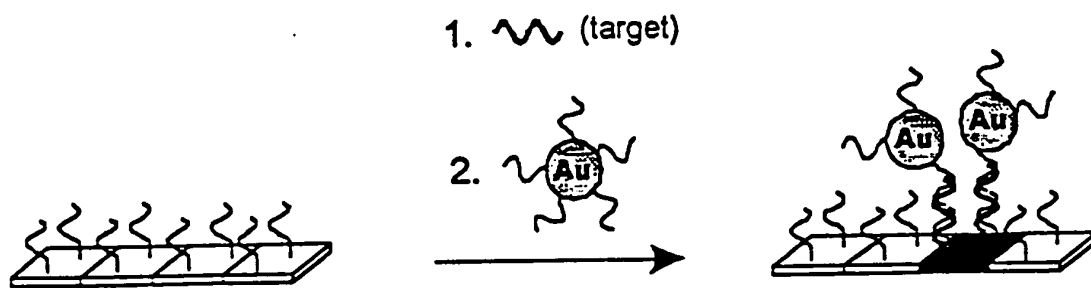


FIGURE 25A

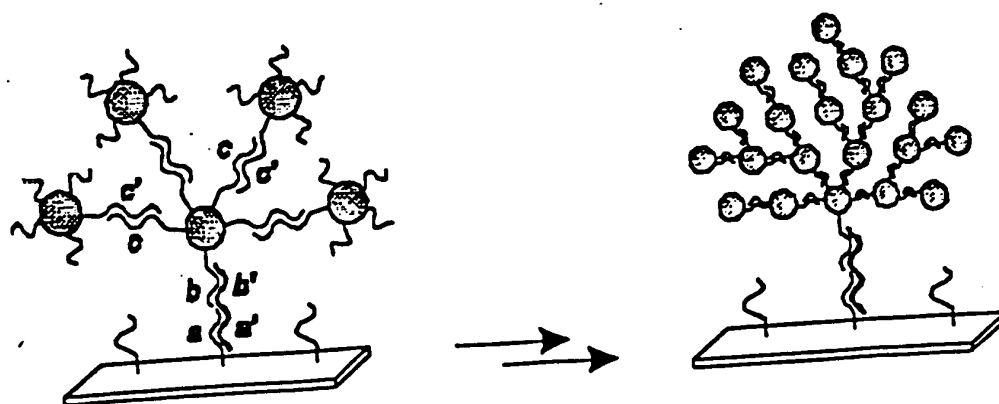
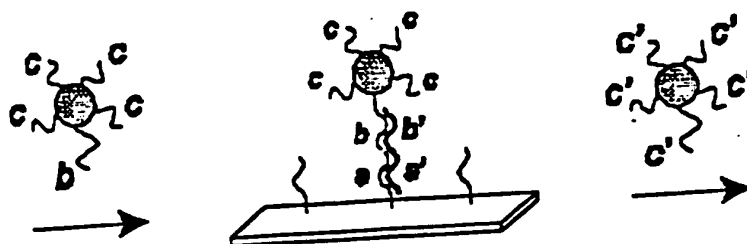
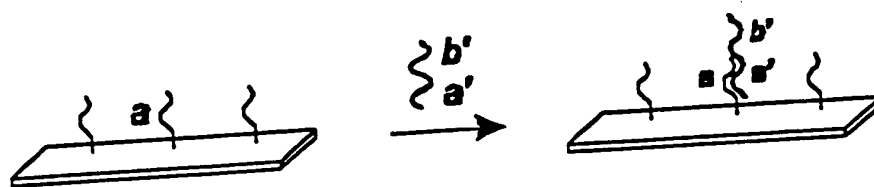
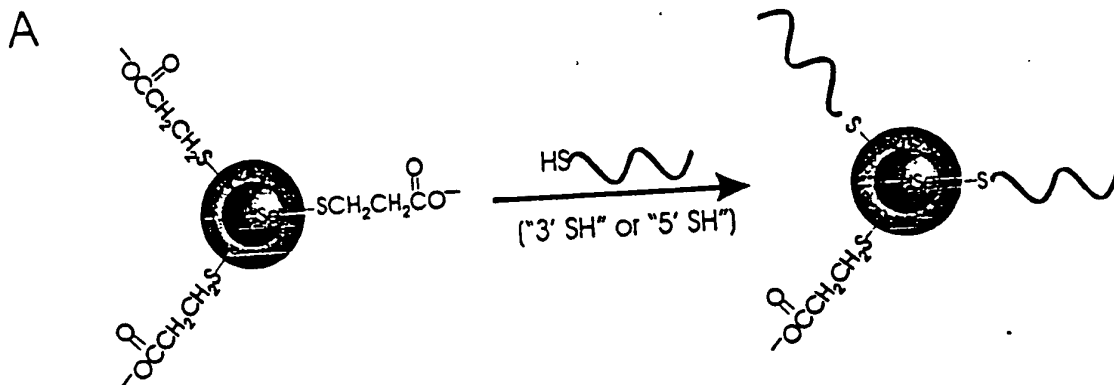


FIGURE 25B

09973638-101001



B

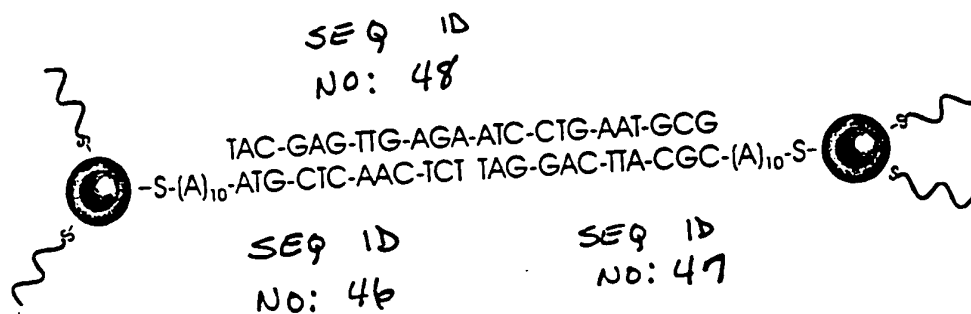


FIGURE 26

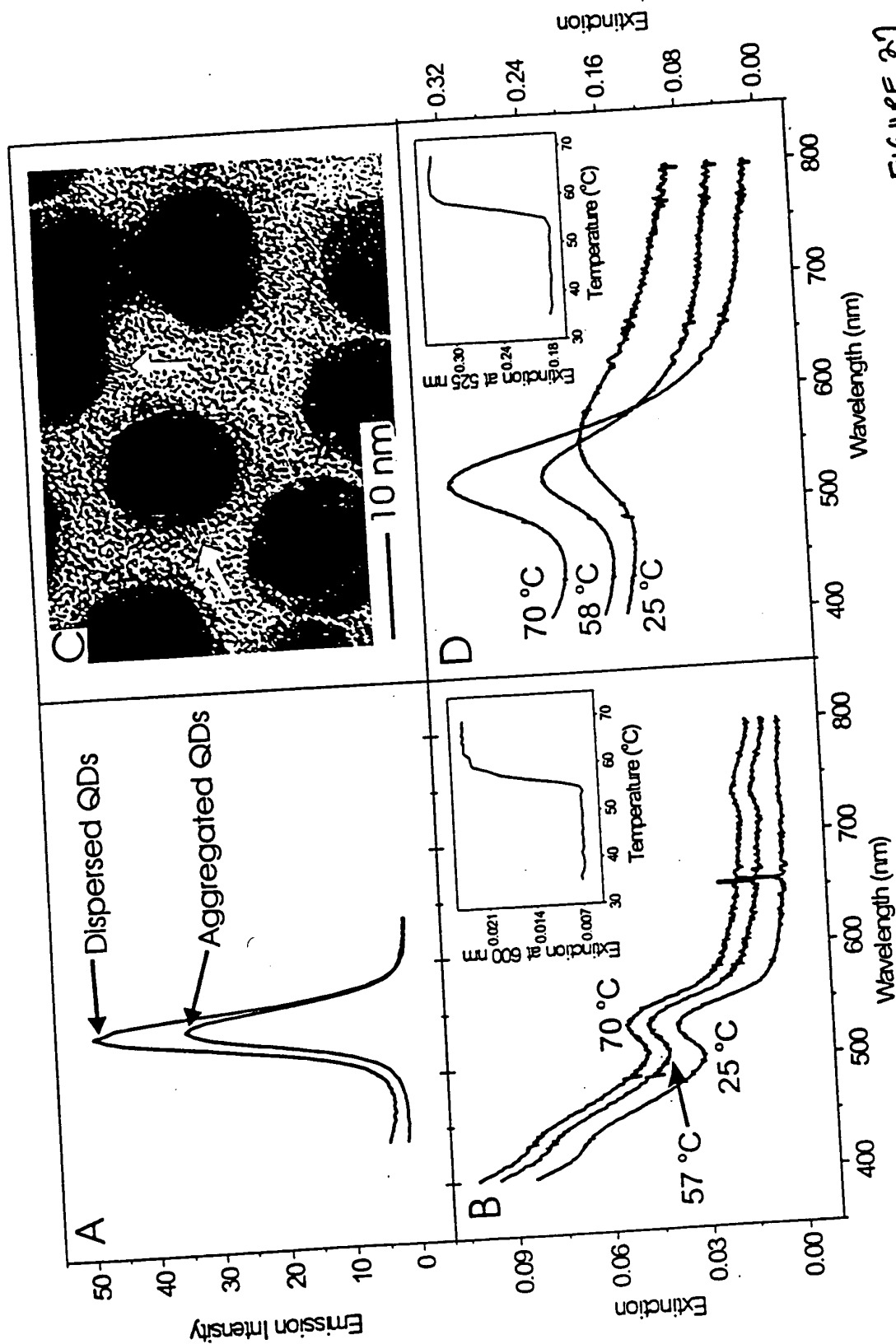


FIGURE 2

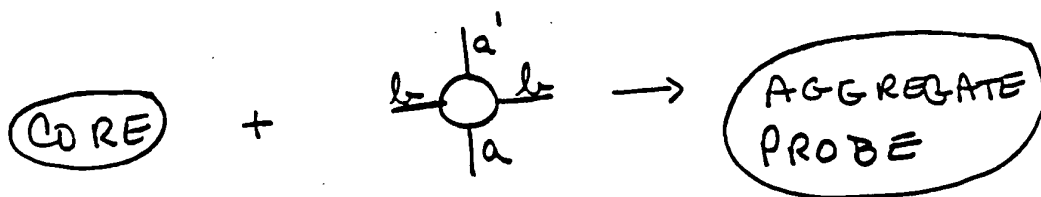
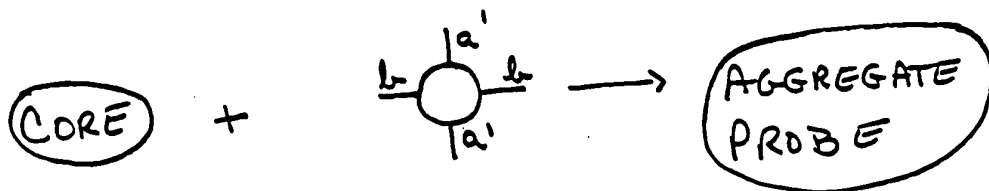
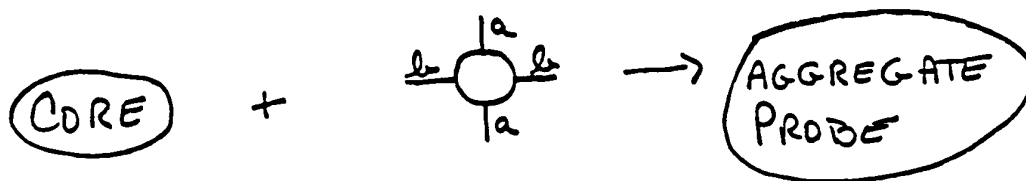
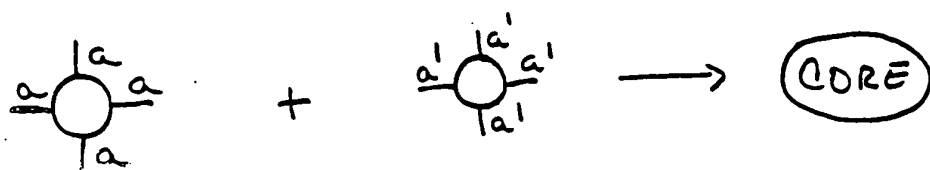


FIGURE 28A

09973638-101001

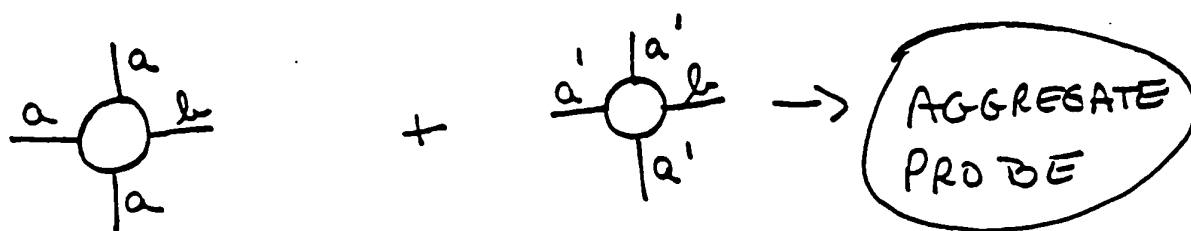


FIGURE 28B

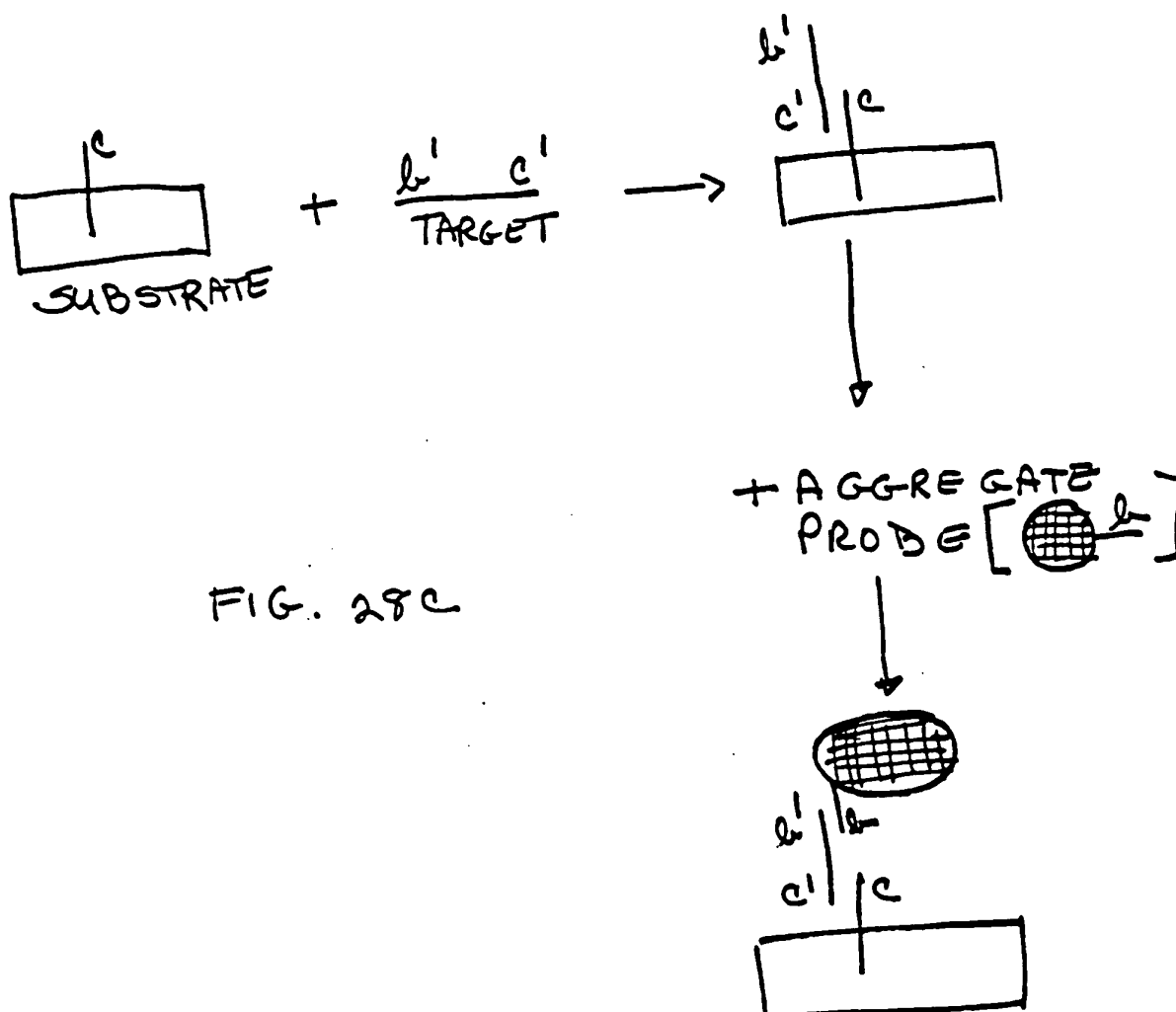


FIG. 28C

09573638 101001

09973638.101001

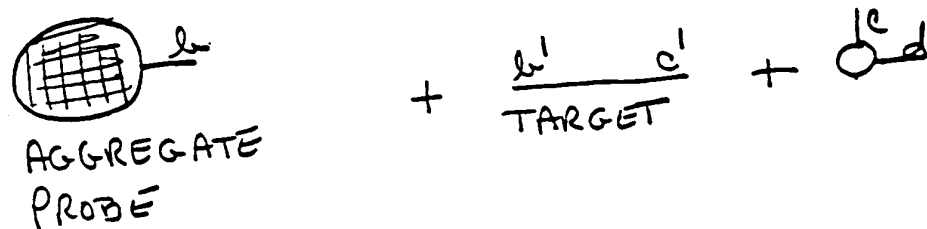
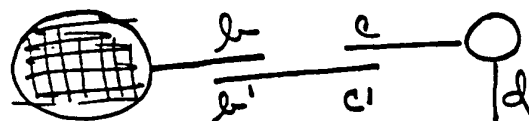
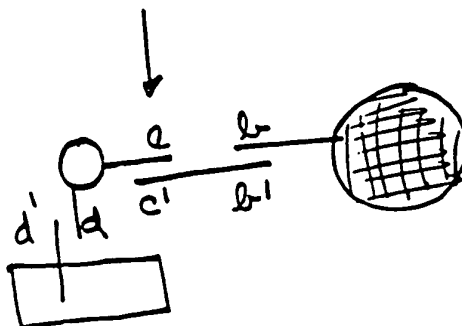
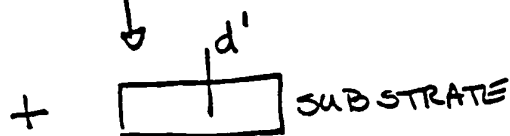


FIG. 28D



REMOVE EXCESS
BY CENTRIFUGATION



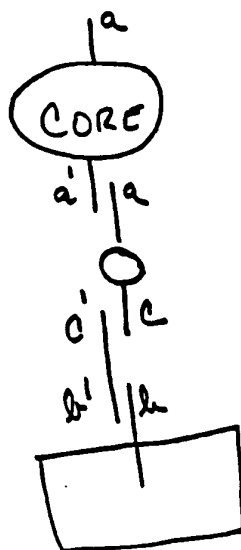
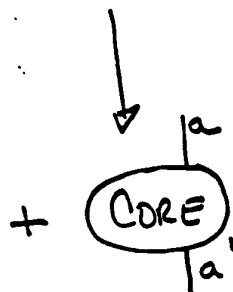
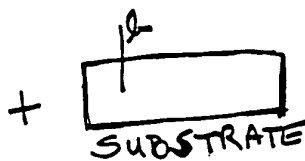
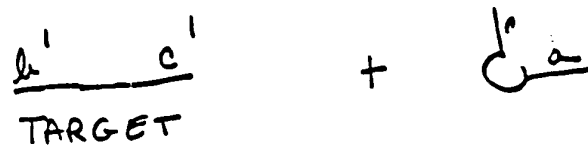


FIGURE 28E

09973638-101001

101004 2E9E266D

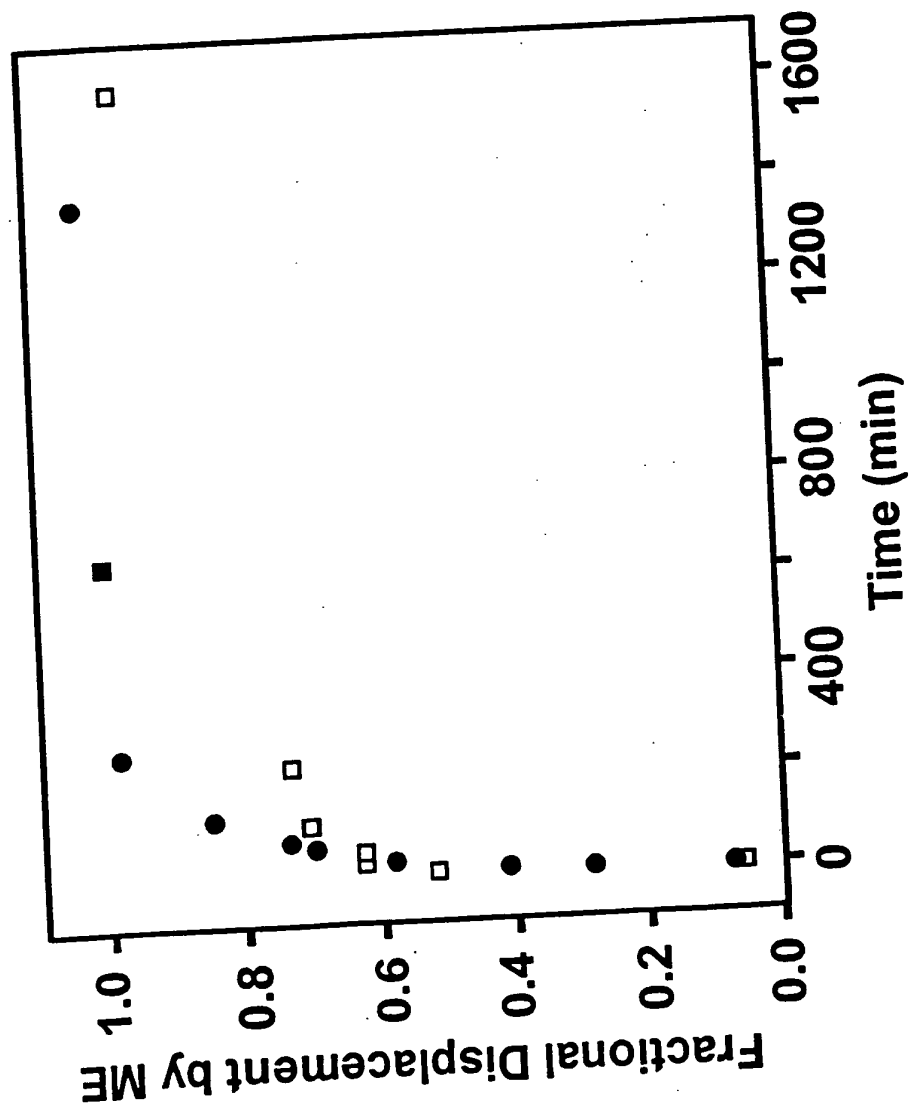


Figure 29

T00T0T" 8E9E/660

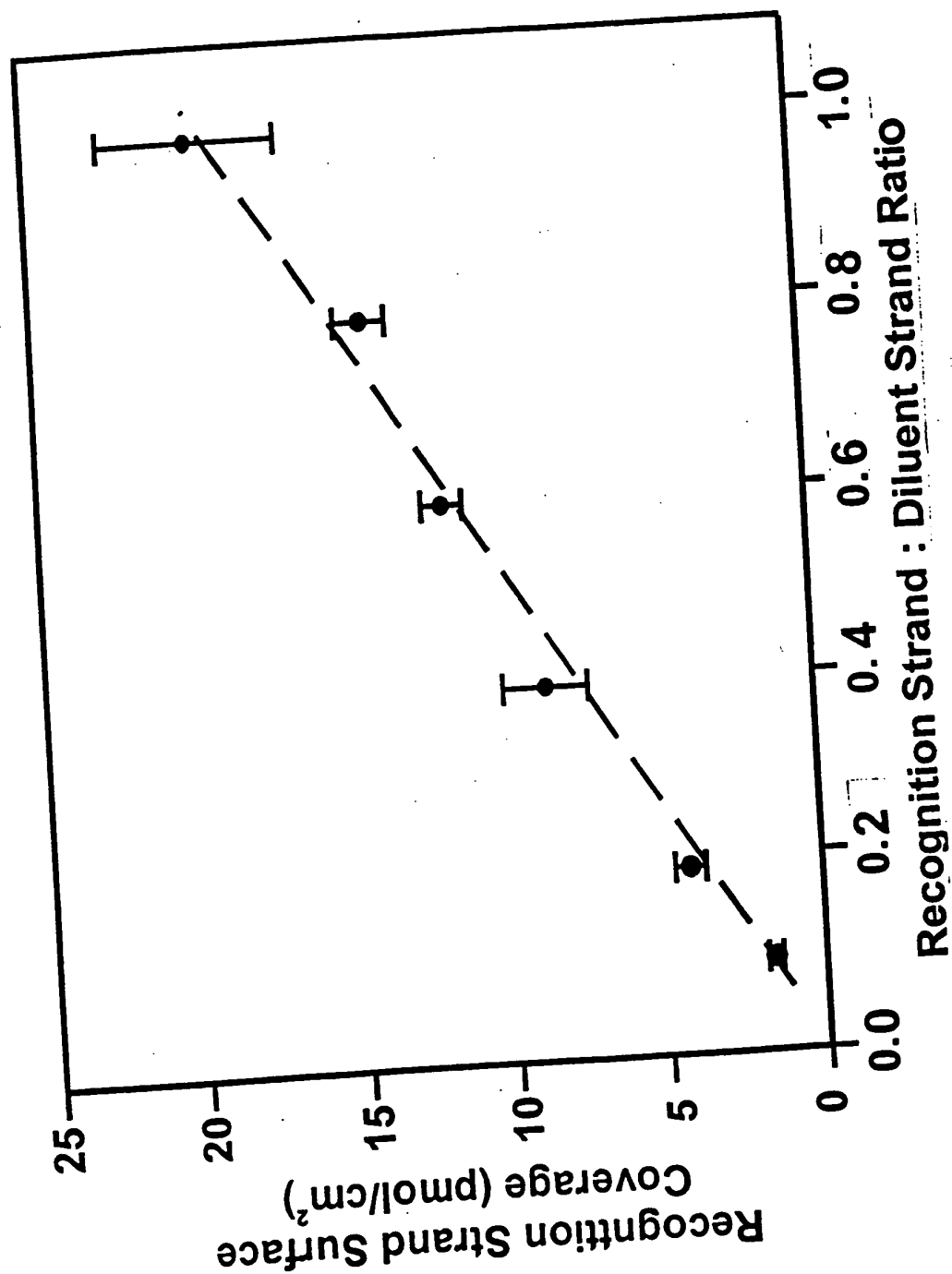


Figure 30

100T0T" BE9E/650

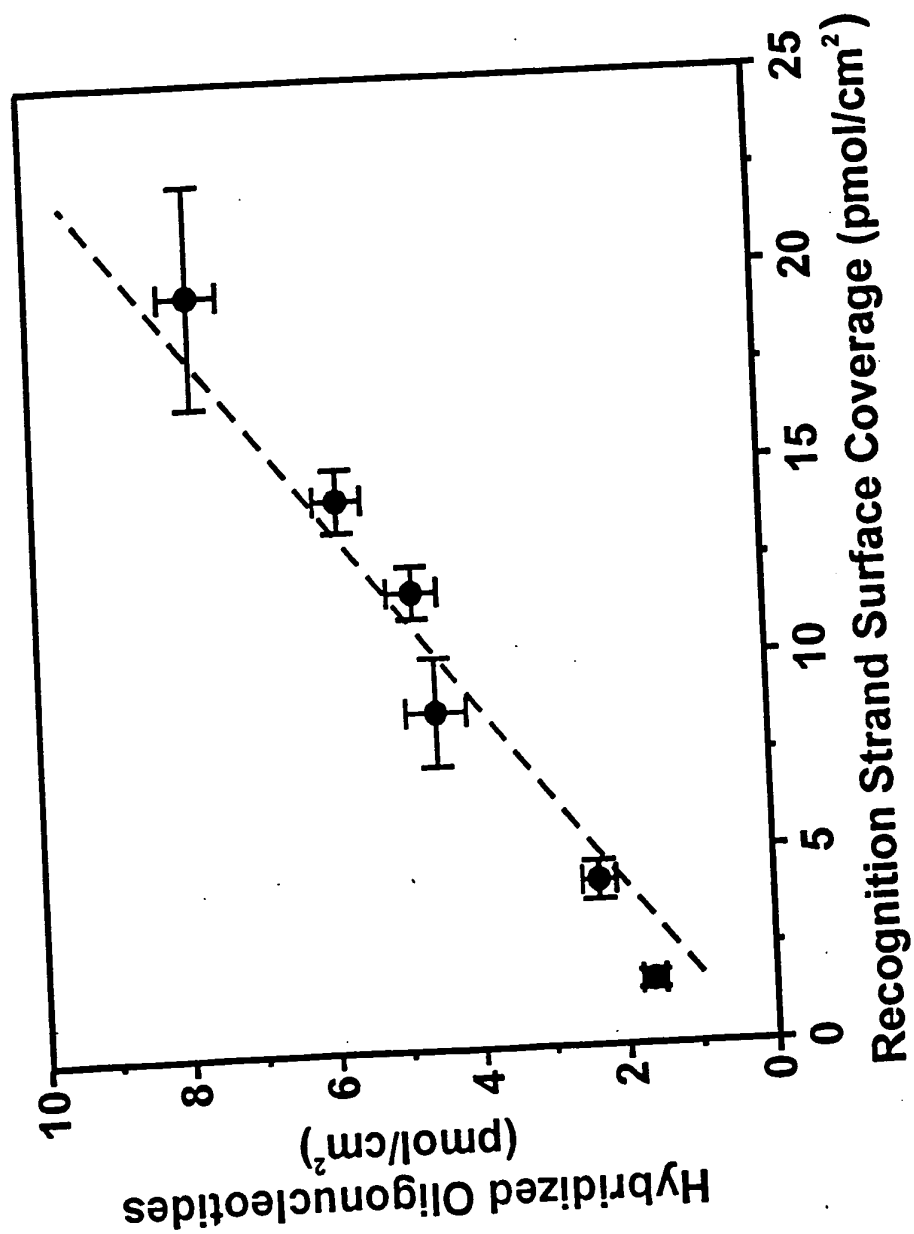


Figure 31

[SEQ ID NO:56]

5' GGA TTA TTG TTA---AAT ATT GAT AAG GAT 3'

CCT ANT AAC AAT TTA TAA CTA TTC CTA

[SEQ ID NO:57]

[SEQ ID NO:58]

N = A (complementary),
G,C,T (mismatched)

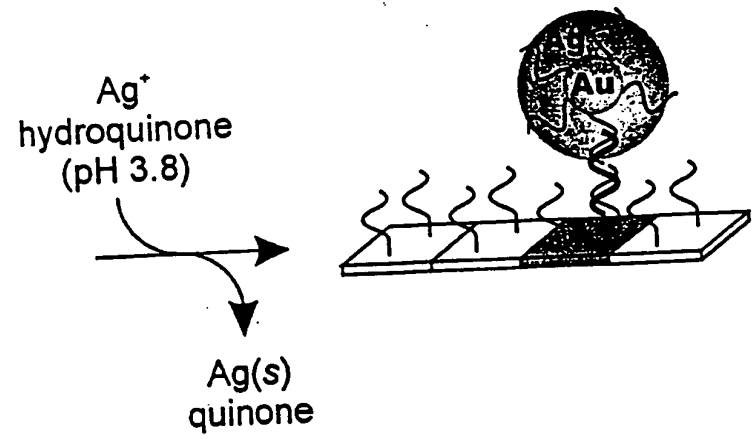
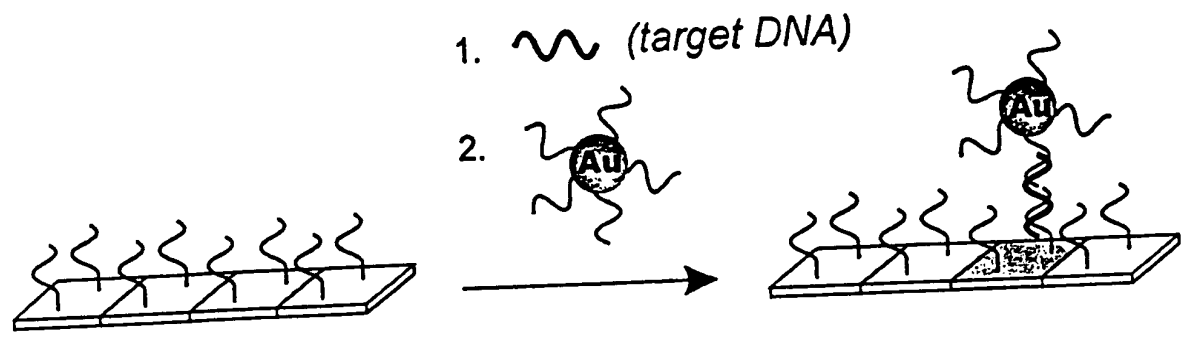
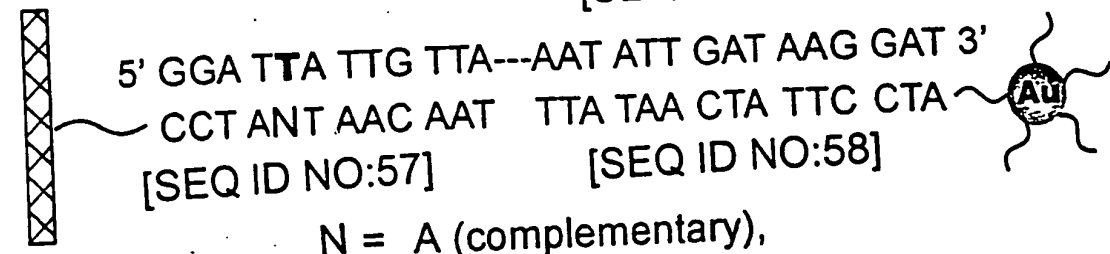


Figure 32

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09973638 101001

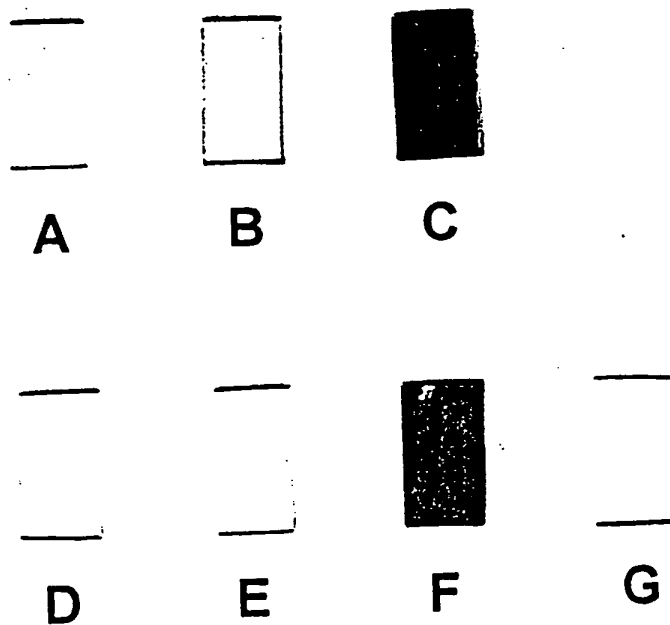


Figure 33

TOPOT-8E9E4660

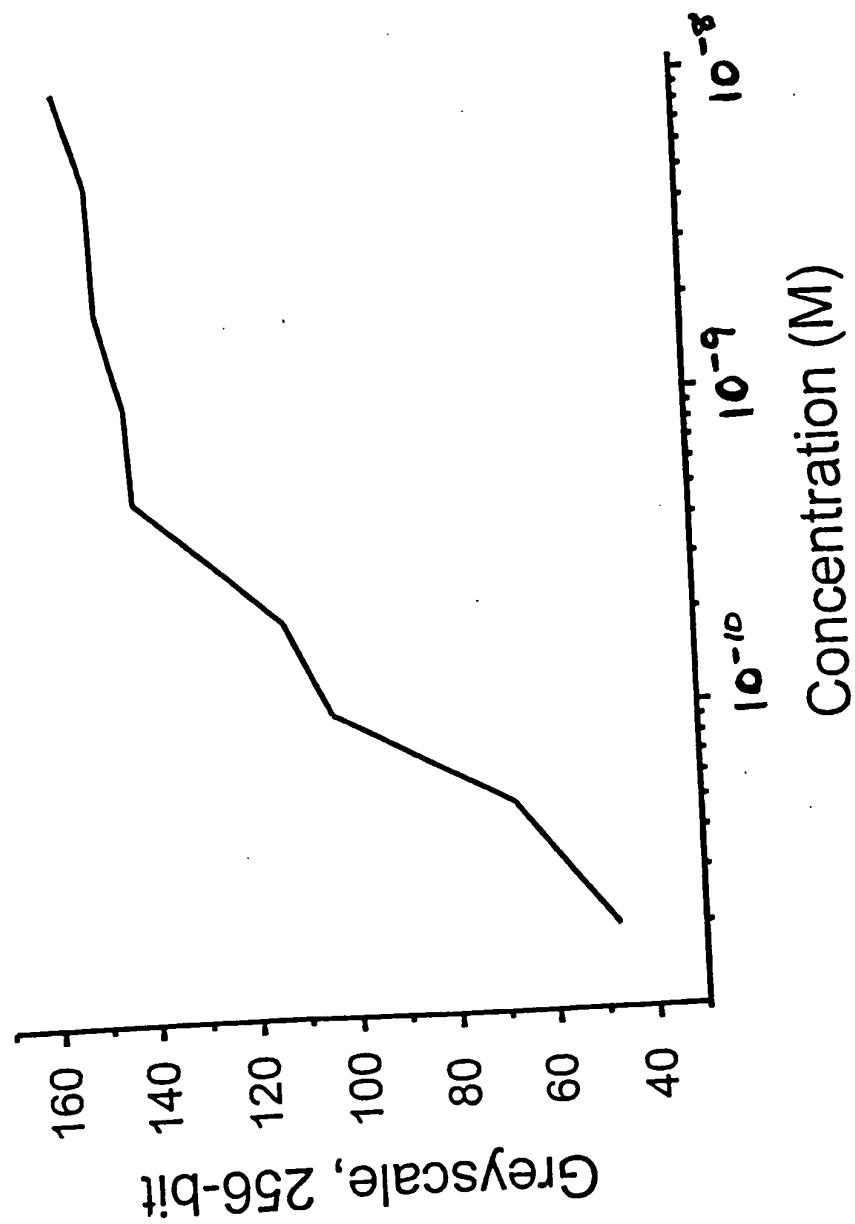


Figure 34

000101" 89952660

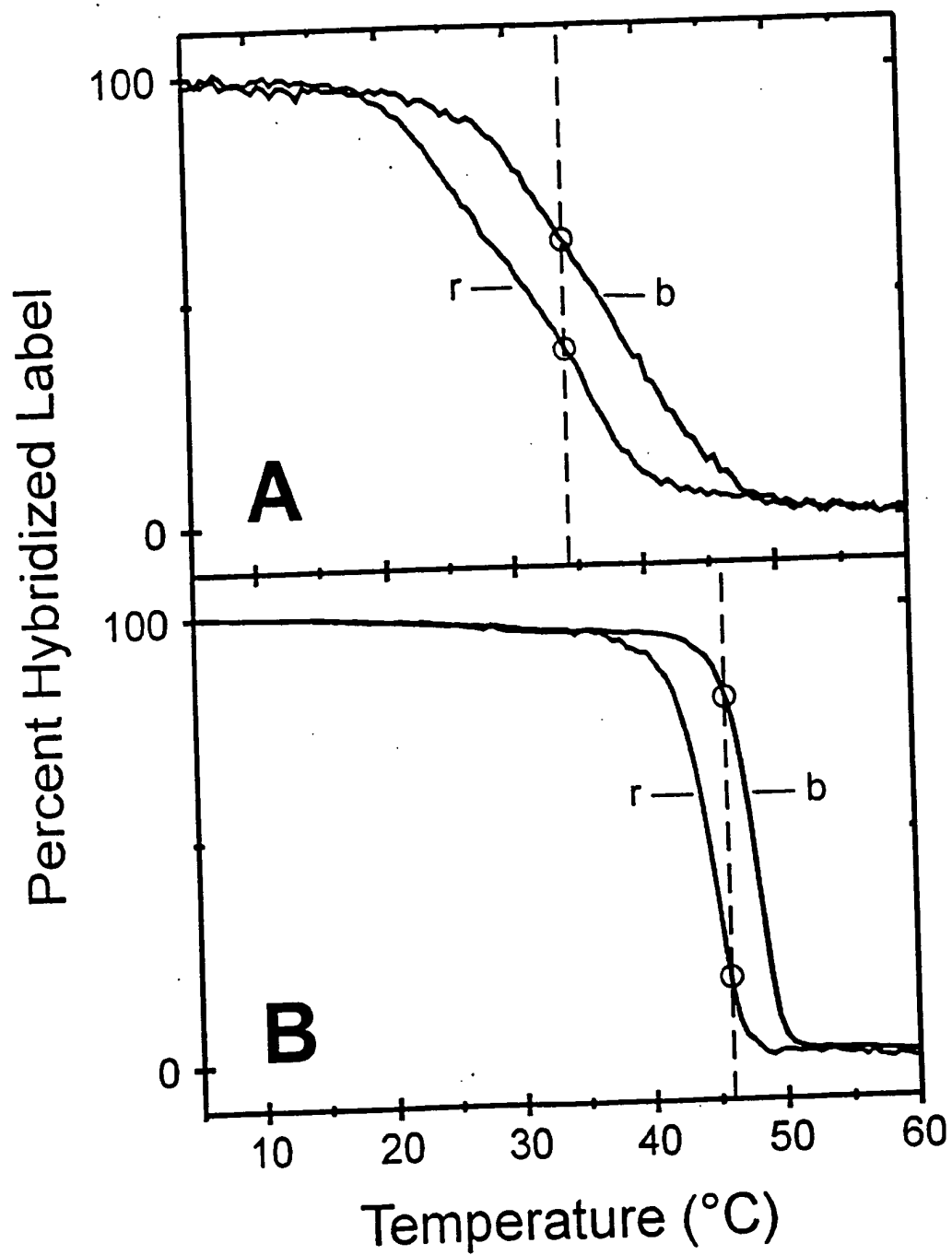


Figure 35

09973638 101001
T00T0T 8E9E4550

FIG. 36A

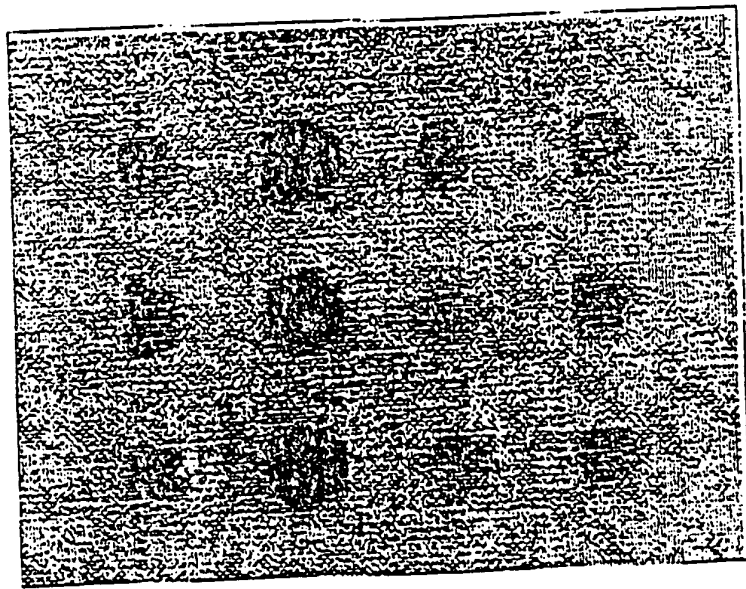
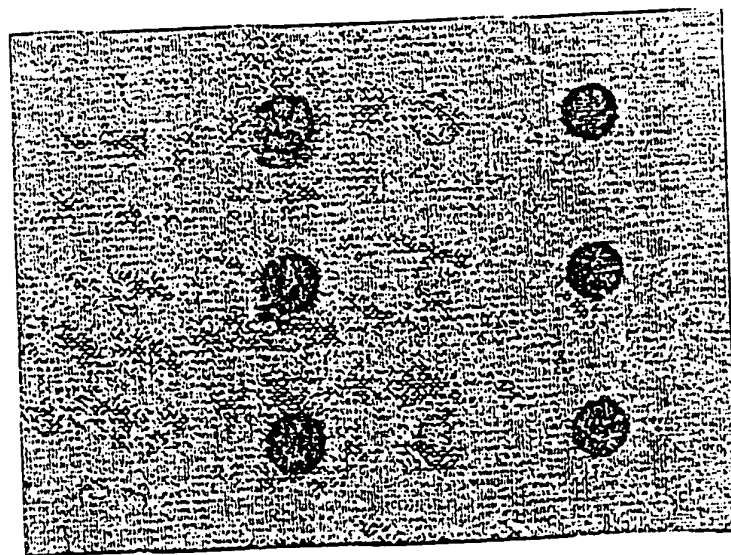


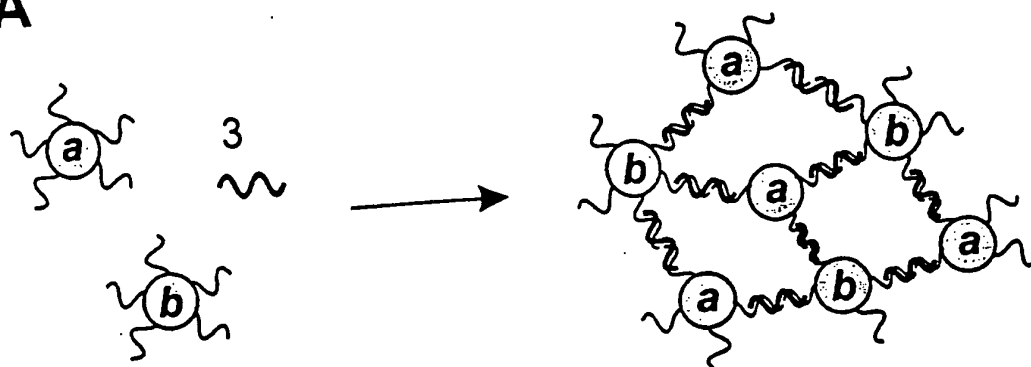
FIG. 36B



C A T G

09973638-101001
TOTAL 2557560

A



B

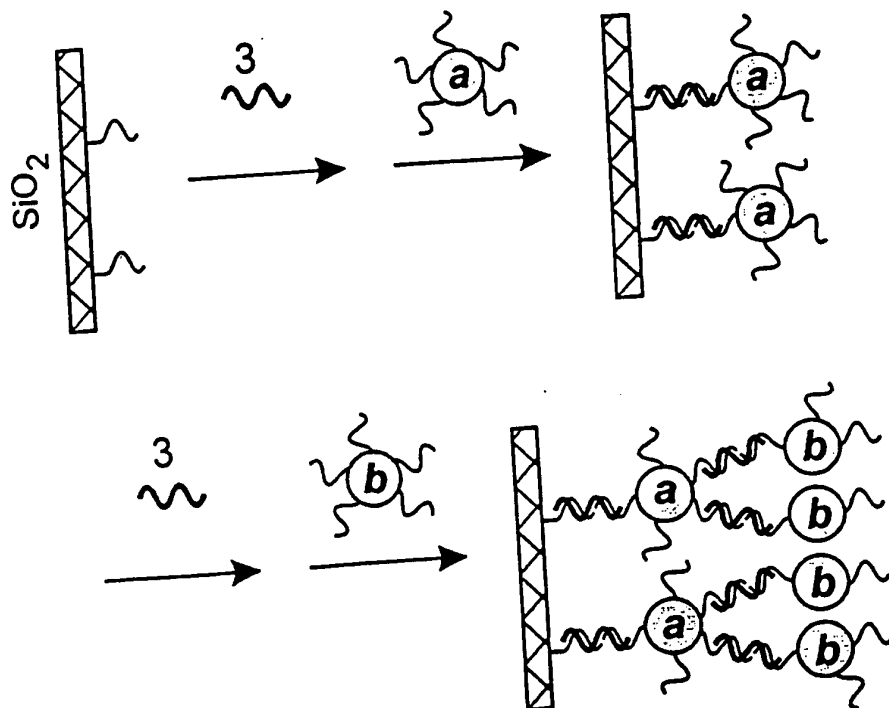


Figure 37

09973638-101001

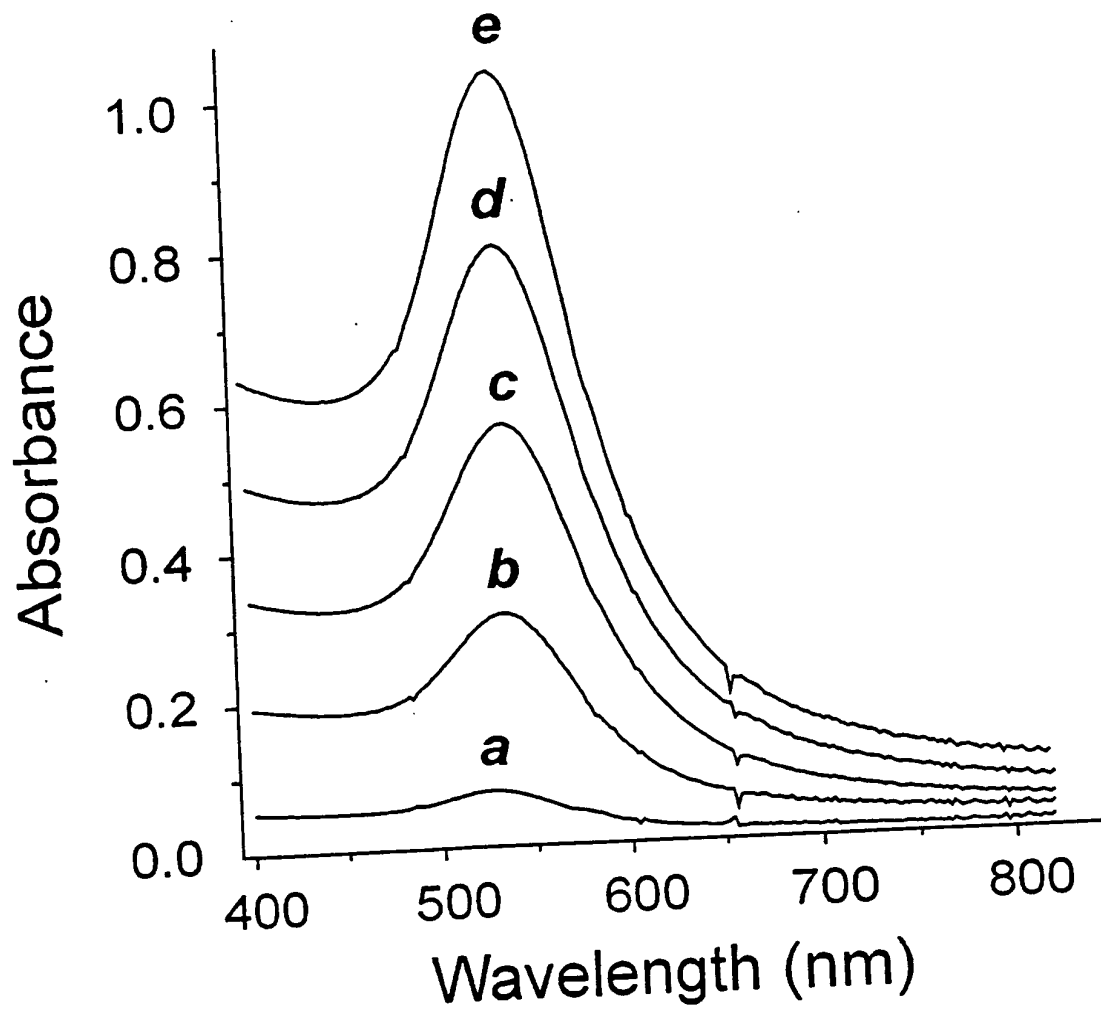


Figure 38A

09973638-101004

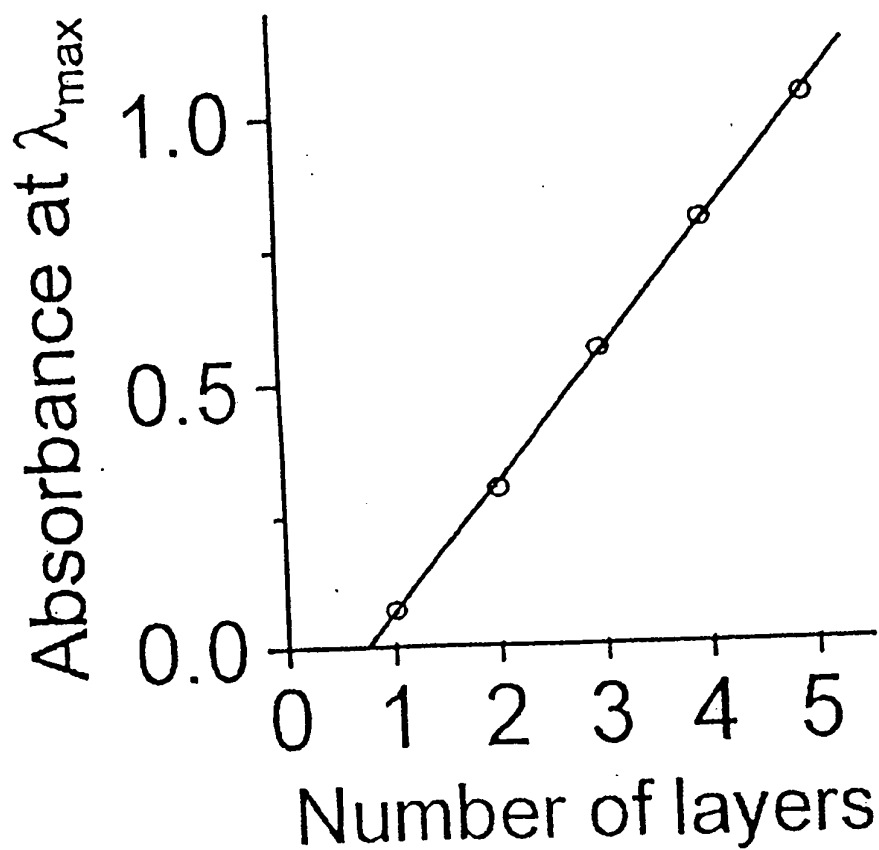


Figure 38B

09973638-101001

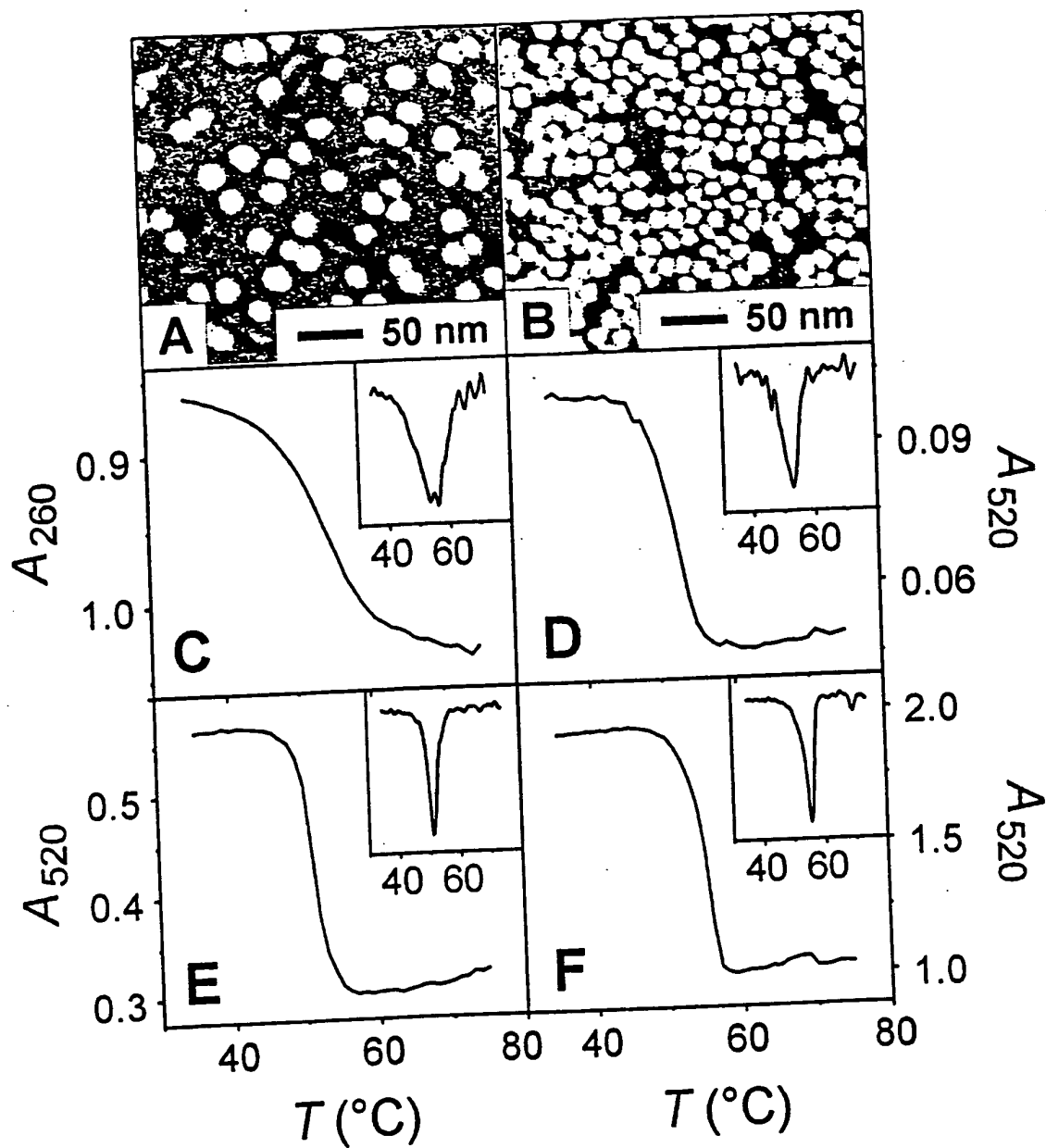


Figure 39

09973638-101001

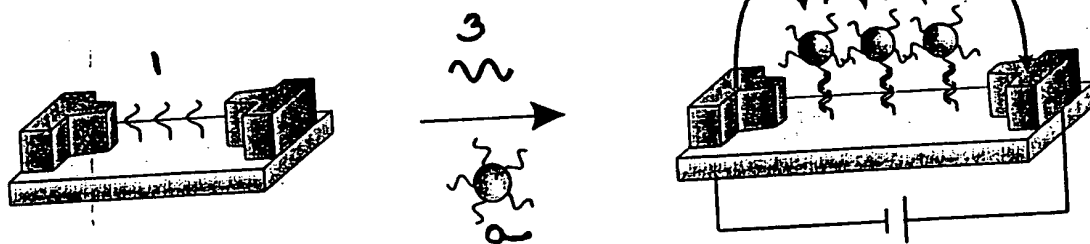
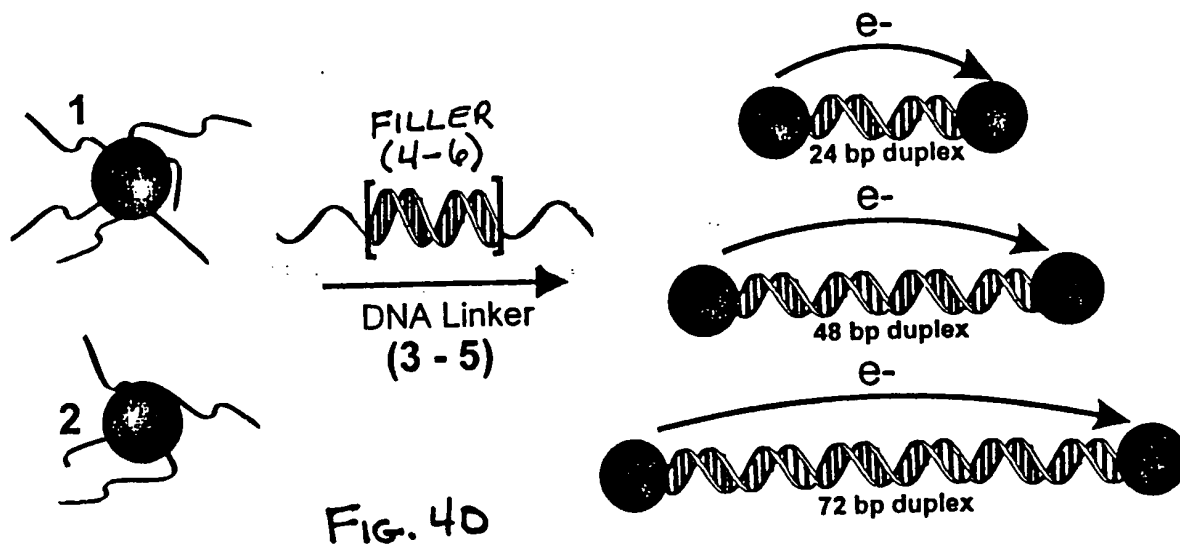


FIG. 41